

NATIONAL COUNCIL OF INSURANCE LEGISLATORS
LIFE INSURANCE & FINANCIAL PLANNING COMMITTEE
AUSTIN, TEXAS
DECEMBER 12, 2019
DRAFT MINUTES

The National Council of Insurance Legislators (NCOIL) Life Insurance & Financial Planning Committee met at the JW Marriott Hotel in Austin, Texas on Thursday, December 12, 2019 at 3:30 p.m.

Representative Joe Fischer of Kentucky, Chair of the Committee, presided.

Other members of the Committees present were:

Rep. Deborah Ferguson (AR)	Rep. Tracy Boe (ND)
Sen. Mark Johnson (AR)	Rep. George Keiser (ND)
Asm. Ken Cooley (CA)	Sen. Jerry Klein (ND)
Sen. Jack Tate (CO)	Sen. Shawn Vedaa (ND)
Rep. Edmond Jordan (LA)	Asw. Ellen Spiegel (NV)
Sen. Gary Dahms (MN)	Del. Steve Westfall (WV)

Other legislators present were:

Sen. Dan McConchie (IL)	Rep. Donna Pfautsch (MO)
Rep. Chris Judy (IN)	Rep. Bruce Grubbs (MT)
Rep. Peggy Mayfield (IN)	Sen. Roger Picard (RI)
Del. Mike Rogers (MD)	Sen. Cale Case (WY)
Sen. Paul Utke (MN)	

Also in attendance were:

Commissioner Tom Considine, NCOL CEO
Paul Penna, Executive Director, NCOIL Support Services, LLC
Will Melofchik, NCOIL General Counsel
Cara Zimmermann, Assistant Director of Administration, NCOIL Support Services

QUORUM

Upon a motion made by Rep. George Keiser (ND) and seconded by Sen. Gary Dahms (MN), the Committee waived the quorum requirement without objection by way of a voice vote.

MINUTES

Upon a motion made by Rep. Martin Carbaugh (IN), Vice Chair of the Committee, and seconded by Sen. Jerry Klein (ND), the Committee approved the minutes of its July 13, 2019 meeting in Newport Beach without objection by way of a voice vote.

DISCUSSION ON THE USE OF GENETIC TESTING INFORMATION IN LIFE INSURANCE UNDERWRITING

Mark Rothstein, JD – Director of the University of Louisville’s Institute for Bioethics, Health Policy and Law – stated that some may think that this issue is not ripe for consideration, but he believes it is. Between 1990 and the present time, there have been a number of laws enacted on health insurance discrimination and genetic discrimination in employment at the state level but very few meaningful laws have been enacted in terms of genetics and life insurance at the state level. At the federal level, the Genetic Information Nondiscrimination Act (GINA) enacted in 2008 deals with health insurance and employment but none of the other forms of insurance. Mr. Rothstein stated that there are three types of state laws in this area and they all have limitations. An example of the first is that the laws only apply to discrimination against carriers of recessive disorders – these laws date back to the early 1970s and were designed to prevent discrimination against individuals who had sickle cell trait but not sickle cell disease. For recessive disorders you need two copies, one from each parent in order to be effective. California and Maryland still have those provisions.

The second kind of limitation is the fact that many of the laws say that genetic discrimination is unlawful unless there is actuarial justification. Massachusetts and Montana have those types of laws. That issue was debated earlier this year in Florida where a bill to prohibit genetic discrimination not only in life insurance but also disability and long-term care insurance was introduced. It was very controversial and eventually it was not enacted but it also contained an actuarial justification provision. You might wonder why you would want to enact such laws because such laws are already on the books via unfair trade practice law which make it unlawful to discriminate on the basis of anything that is not actuarially justified. Mr. Rothstein stated that perhaps the most stringent state to pass a law in this area is Vermont which prohibits life insurers from acquiring genetic testing of an applicant or using the results of a family member’s genetic test but it does not prohibit the use of genetics tests that were run in the clinical setting and are in the individual’s medical records that you can lawfully request as a condition of considering someone for life insurance.

Mr. Rothstein stated that he believes it is a critical stage now to consider these issues because at the present time between 25 and 30 million people in the U.S. have had direct to consumer genetic testing such as 23 and Me. Most of those are in the ancestry realm where you are not going to deal with health information of a predictive nature but there are at least 2 million of these tests that do generate predictive health risk assessments and they are off-record because if you have had these tests they send you the results and what you do with them is up to you and if you don’t want to tell anybody no one will know. Mr. Rothstein questioned that if you don’t think 25 million is enough, what would 50 or 75 or 100 million mean? From the industry perspective, the more people who have information that the industry doesn’t have, the more uncomfortable the industry is about the risk of adverse selection. Mr. Rothstein stated that there are also other technologies besides simple genetic testing that are increasingly being used which he believes will put pressure on insurance companies to do something. The first type of technology is polygenic risk score which combines dozens or hundreds of factors and algorithms to project what the risk is. These are already marketed to individuals so you can get your risk of heart disease or cancer. Some insurance companies have already started using epigenetic age estimators to try and figure out life expectancy.

Mr. Rothstein stated that genetic testing in underwriting is not nearly as valuable as many people think it is. Mr. Rothstein then discussed what type of genetic information might be valuable in underwriting. In order to be valuable, the information must be an

adult-onset disorder. If you have someone that applies for life insurance and they already have a condition that is not the case here because then you treat that as any other medical condition. Predictive genetic testing has to be for adult onset disorders. A disorder which has a high penetrance would be valuable information, which means that there is a high likelihood that a gene will be expressed if you inherit it. There must be a high absolute risk in terms of what it means regarding the likelihood that the person is going to get sick and how does that compare to the average person in the population – you might have three times the risk of someone in the population but that could mean three in a million instead of one in a million. There must be a high mortality rate for the condition which gets into the issue of how treatable it is – that is a moving target and very complicated. There must be a lack of family history. If your father died of Huntington's disease, you don't need a genetic test because it is what called an autosomal dominant disorder – 50% of that person's children are at risk and you would be at risk of Huntington's disease without a genetic test. So, if you have family history you don't need a genetic test but a genetic test would be valuable where there is no family history and that could arise during de novo mutations (something that is not inherited and just happens in the process of reproduction); a young adult applicant for life insurance whose parent is not quite at the age of onset of the condition concerned about; and where there is no family health information such as an orphan, adoptee or misattributed paternity.

Mr. Rothstein stated that he is suggesting that there are very few cases which meet all those criteria – some are early-onset Alzheimer's disease, some neurodegenerative diseases like Huntington's disease or Lou Gehrig's disease, some hereditary cancers, and some syndromic conditions such as Li-Fraumeni and Lynch where if you inherit a certain mutation you are at risk for a variety of cancers. Mr. Rothstein stated that just because a condition meets those criteria does not mean that someone cannot be medically underwritten and given life insurance – breast cancer is an example where increasingly life insurers are finding that they can write life insurance for.

With regard to other countries that have dealt with these issues, Mr. Rothstein stated that the U.S. is an outlier in the sense that it has not regulated life insurance and the use of genetic information. The argument is not that the U.S. is compelled to do what's done in the UK or Canada, rather, now we have evidence of the effect of these laws on the life insurance companies as well as the people applying for life insurance so the laws can be used as case studies. The UK has had a moratorium on this practice since 2001 so there is very good evidence on the effect of banning the use of genetic information in life insurance underwriting for policies below 500,000 pounds. In 2015, Canada implemented an industry-developed ban on predictive genetic testing in life insurance for 250,000 Canadian dollars which was done to forestall legislation but it did not work because in 2017 Canadian Federal Bill S-201, the Genetic Nondiscrimination Act, was passed which prohibits imposing genetic testing for any "good or service." Mr. Rothstein stated that similar to how the U.S. has the McCarran-Ferguson Act which gives jurisdiction over insurance regulation to the states, the Canadian constitution gives jurisdiction over insurance regulation to the provinces. Accordingly, for the Canadian federal government to enact that law it couldn't use the word insurance and instead used the phrase "good or service." Quebec has challenged that law – it won in the lower courts and it is now pending in the Canadian Supreme Court.

Mr. Rothstein stated that Australia had a voluntary moratorium that went into effect in July and other countries that regulate genetic information in life insurance underwriting

include: Argentina, Belgium, Bulgaria, Denmark, Estonia, France, Germany, Iceland, Ireland, Israel, Lithuania, Luxembourg, the Netherlands, Portugal, Sweden, and Switzerland. It is interesting to note that the regulations have not resulted in substantial increases in costs for life insurance companies and have not resulted in decreased accessibility for individuals to get life insurance through higher prices. One of the most cited studies in the UK stated that the laws resulted in a 0.1% increase in cost.

Mr. Rothstein stated that he believes that genetic testing saves lives and he does not want to see anything that discourages people from undergoing genetic testing. Early detection of certain gene-mediated illnesses, especially cancers, is essential. There are about 130,000 hereditary nonpolyposis colon cancer cases per year and about 21,500 cases of hereditary diffuse gastric cancer per year. Those are largely preventable cancers if you do genetic testing although what you have to do to survive is not pleasant - you have to remove the person's stomach prophylactically. The other option is even less pleasant because it is largely non-treatable because by the time it is diagnosed it has spread throughout the abdomen. Mr. Rothstein stated that people are not being tested for this because they are afraid of losing access to life insurance, disability and long-term care insurance and it is tragic. Mr. Rothstein has met with many genetic counselors and many clinical geneticists and if you ask them the question "have any of your patients declined to get tested even though they are at risk because of their concerns about social implications" – they all reply "yes."

Mr. Rothstein stated that it must be U.S. public policy to encourage those people to be tested and especially in the context of that it is not going to ruin the insurance industry and make it unprofitable and raise the cost to the level of unaffordability. Life insurance has to be the next form of insurance that is going to be subject to the rules discussed. It has been done with health insurance and employment and the sheer size of the life insurance industry warrants these regulations. Mr. Rothstein stated that he is not advocating for a fundamental change in the way life insurance is underwritten. It should not be guaranteed issue, community rated or a welfare plan or anything like that. Mr. Rothstein stated that he is not opposed to life insurance companies getting other health information, environmental factors, or family history in medical underwriting. Rather, genetic test results of the individual applicant should not be used in life insurance underwriting. There are other issues that will have to be dealt with such as whether applicants can voluntarily submit a good genetic test – but those are better left for legislative hearings. Mr. Rothstein urged the legislators present to take this issue on in their respective states.

Dr. David Rengachary, Sr. VP & Chief Medical Director for US Mortality Markets at RGA Reinsurance Co., stated that this is the first industry advocacy issue he has become involved with because he has heard a lot of misconceptions about what life insurers do and do not do with this type of information. The first misconception that is heard a lot is that life insurers want this information so that they can decline more people for insurance. Dr. Rengachary stated that his boss has never told him that they have to find ways to decline more people for insurance. That is simply not the way the competitive industry works, and it ignores a basic fact that very often, the test results are negative and they offer the consumer a path to a more favorable rate. In Dr. Rengachary's opinion, taking away that information would be anti-consumer because it takes away the ability from the consumer to do what they want with their genetic information and data.

The second area of misconception deals with fairness. It is often heard that it is not fair to use this information because there is no control over it. The problem with that is that life insurers must be fair to all applicants. So, when there is an applicant with genetic information on their application, it is not seen in a vacuum. On top of that application of a person with Huntington's disease is an application of a mother of four with colon cancer and below that, an application of a teenager with multiple sclerosis. Accordingly, Dr. Rengachary stated that in his mind he must be fair not only to those people who have decided to take a genetic test, but to those people who decided not to, those who have decided to disclose that information and those for which no genetic testing is available such as a police officer with a spinal cord injury, or those who are current policyholders.

Dr. Rengachary stated that if there are two people with the exact same disease and the exact same mortality and one of those individuals received their diagnosis through a genetic test while the other received the diagnosis through a set of pictures, it is patently unfair to charge them different premiums. The third area of misconception is that life insurers don't need the information as they can just increase the premium a few dollars and it will be fine. Some of the challenges with that is that the information has become increasingly pervasive throughout the medical record. We used to think of genetic testing as something rare and only affecting Huntington's disease or breast cancer but now we see the information for things as basic as newborn screening and the staging of cancer. So, the idea that insurers can separate things out in a medical record and a genetic record is antiquated. The other problem is that removing genetic information would not only change whether or not someone would apply for a policy but would change the amount that they would apply for by a significant degree. A basic example is for someone who makes \$100,000, they may qualify for \$3 million of insurance but people usually only apply for a fraction of that because there are a wide range of financial vehicles and it doesn't make sense to invest in only one. But now you have somebody with a markedly lower life expectancy and therefore it makes a lot of sense for that person to maximize their insurance at the \$3 million level for themselves and their family. You can imagine if there are just a handful of those types of scenarios, viability of those policies and companies can be a significant issue.

Also, imagine if there are a few states that decide to remove the ability of life insurers to use genetic information. Policyholders are not restricted to buy life insurance from their state – they can cross borders and buy life insurance. Accordingly, the policyholders in the states that decide to remove this ability from life insurers would have to bear the burden of a nation's worth of policies which is unsustainable. Dr. Rengachary stated that such a scenario may sound like an exaggeration, but it is not if you ask yourself the question of whether you would purchase a \$300 flight for \$3 million. Another misconception often heard is that genetic information is used in life insurance but not in health insurance, so if it is good for health why doesn't it work for life? One reason is because life insurance is not only voluntary but is also voluntary in the amount the person wishes to apply for. You can apply for \$5,000 or easily apply for \$5 million – that is a key difference in life and health insurance since for health insurance you are just reimbursed for your medical costs. The only way that we are able to arm the consumer with such a powerful level is the free and open exchange of information. That level playing field is the entire basis for life medical underwriting. The other key difference between life and health insurance is that health insurance has the ability to re-price on a yearly basis but for life insurance there is one single opportunity to make a prediction that must last sometimes 50 years into the future and if the insurer is off by a small

amount the viability of the policy vanishes and if that occurs on a large number of policies, the viability of the company can be an issue.

Dr. Rengachary stated that the final misconception to address is that life insurers want carte blanche when it comes to genetic information. There are many reasonable types of things which can be done and insurers understand that there is a heightened sensitivity among consumers about this information so if there needs to be greater rigor and discussion about informed consent then that is a conversation which many insurance companies are certainly open to having. But that conversation makes sense to occur not only around genetic information but around all medical information. There is another misconception that life insurers are hungry to buy data from 23 & Me.

Dr. Rengachary stated that he has never heard about a life insurance company requiring an individual to undergo genetic testing as a precondition for insurance and although he cannot speak for an entire industry, he believes that many would like to discuss that issue. In return, he believes that there are three basic elements that would need to be the cornerstone of sustainable and successful genetic legislation. The first of which would be to maintain the level playing field – the equal sharing of information related to mortality is the cornerstone of a life insurance market that has been successful for consumers and companies alike for over 100 years. The second element is some element of practicality – at the end of the day life insurers are not as resourceful as the CIA and do not have 300 genetic counselors in the back room to redact millions and millions of medical records to try and remove the genetic information. Lastly, the legislation must be actuarially sound – at the end of the day life insurers make billions of dollars' worth of promises and those promises may not come to be paid until well after the promisor retires or passes away. It is very important the decisions are made now that supports the ability to make those promises decades into the future.

Rep. Joe Fischer (KY), Chair of the Committee, asked with respect to family history questions on the application, do any life insurers ask whether someone has had a genetic test. Dr. Rengachary stated that he cannot speak for every company, but the standard industry practice is to simply ask whether the applicant has had any recent diagnostic test or medical visit. The problem of relying on family history is that it can be an inaccurate recollection as not many can say exactly what your parents had and that was the year they had it and that was the specific type of cancer – it doesn't work like that. Also, there is no means of verification – you are relying entirely on self-reporting and there is no database and underwriting requirements that have relied entirely upon self-reporting that have fared well. Further, it casts entirely too wide of a net – for every person with a family history of breast cancer there may be 20 people with a family history but only one person that has the actual breast cancer. So, if that information was removed we would be setting up scenarios where insurers couldn't look at the genetic test result and instead of rating that one individual the insurer would have to rate the 20 individuals that had the family history of breast cancer which does not make sense.

Sen. Gary Dahms (MN) asked if genetic testing was part of the life insurance purchasing process would there be any changes realized. In some applications there will be a question asking if there are family members that have had cancer. If that question was removed but you now have genetic testing, would that change the balance in the pools? Dr. Rengachary stated that he does not believe that there would be a change in the balance of the pools in that scenario. It may be perfectly reasonable to consider that question along with any other medical test or procedure just to provide some clarity. The

challenge is that when you rely on the medical record, more and more times the information may not be there as it may be in the results from companies like 23 & Me.

Dr. Rengachary stated that he does not believe the pools would be changed for two reasons, the first of which deals with research and the notion that insurers are essentially killing people by using this information. That argument completely falls away when you compare it to every other medical test that insurers have used for decades in the life insurance process. EKGs are used to assess a lifelong cardiac risk; and colonoscopies are used to assess a gastrointestinal risk. Dr. Rengachary stated that he has never received a call from a cardiologist or a gerontologist saying that the life insurer is keeping the person from doing those types of screenings by using it in the life insurance process. The same is true for genetic testing. Sen. Dahm's question is a very important to question to consider as Dr. Rengachary believes that everyone agrees that price would ultimately increase, so what happens next? All of a sudden you have a healthy individual and when they look at financial vehicles, the more costly life insurance policy may not make sense for them but still may make sense for the person who is sick or who has a serious genetic condition. So, that person will buy the policy and the pool becomes sicker, their prices increase further and you have a classic death spiral scenario.

Mr. Rothstein stated that he has been working on this issue for 30 years in advising insurance companies, legislators, and other countries, and the traditional arguments that have been raised need to be rethought. Actuarial precision cannot dominate what the thinking is. Policy has always been an important element of what legislators have done and what organizations nationally have done. Before World War II, the life insurance industry had separate mortality tables based on race. Unfortunately, you could still today make an actuarial case that we should rate people differently because of their different life expectancies because of their race. From a policy standpoint, we said no as that is wrong and life insurance companies have not gone out of business because of that. Mr. Rothstein stated that some of the concerns that have been raised about people asking for \$5 million of coverage is not in accord with reality and the companies he has worked with. If someone who is of a modest income suddenly applies for a \$5 million life insurance policy, that raises all sorts of red flags and the underwriters are not going to take kindly to that. At the very least, the reinsurer is not going to take kindly to reinsuring the overage of that.

All of the countries previously mentioned have put caps on the amounts so if it is more than a certain amount, life insurers can use genetic information but there is a limited amount that people can get without submitting genetic information. Mr. Rothstein stated that it is correct that the life insurance industry would just hope that genetic information and testing from the actuarial process would just go away, but it is not going to because people are getting their own tests. The question is how we are going to respond to that as a matter of policy. Mr. Rothstein stated that this is not the same thing as someone who is getting a colonoscopy or an EKG – tests received in the clinical setting to diagnose and treat a current condition is not the same thing as predictive genetic testing for what may come down the road 20 years in the future. Every study that Mr. Rothstein has seen clearly indicates that there is a substantial percentage of people who are not getting tested. If policy can be implemented without disrupting the industry or access to insurance, it should be done as other countries have done it and there are no problems there in terms of profitability or access. If there is concern that there might be problems with profitability or access, then an option to consider is what was done in the UK in that

it implemented a moratorium for a certain period of time to see what would happen and then make a decision about continuing it. Mr. Rothstein stated that it is important for state legislators to be proactive with this issue to protect their constituents.

Dr. Rengachary stated that with regard to the notion that the use of genetic information should be equated with the use of race, that is an issue that needs to be taken head-on. Historically, what Dr. Rothstein stated was correct but there is a key difference in trying to equate actuarially genetic information with race. There is no race which has a life expectancy of three years or 30 years but there are genetic diseases which do. Dr. Rengachary stated that he is not suggesting that if a race did have a life expectancy which was that short that insurers should be able to use that information, rather, he is suggesting that if you were to equate that then you would have to come up with an entirely different system. The other problem with equating genetic information with race is that you are including all genetic information in that category. Certainly, a good reason why race is excluded is that historically, protected classes have been subjugated for decades but now you are including all genetic information within that protected class and that includes things like the ability to roll your tongue and the color of your ear wax. Any protected class would find it downright offensive if you were to give all that type of genetic testing the same degree of protection as a protected class.

With regard to the notion that genetic information bans have been successful in other countries, Dr. Rengachary stated that a reasonable question to ask is if we want the U.S. life insurance system to look like it does in other countries. Part of the reason that other countries are able to do this is that they have a very different underwriting process. Some countries allow a lot of information upfront but then at claims time the policy is aggressively re-underwritten – the so-called practice of underwriting at claims time. That results in a much higher tendency to rescind the policy if they find information was not disclosed. Dr. Rengachary stated that he does not believe consumers here would go for that. Other countries that have enacted these bans also have equally restrictive bans on direct to consumer genetic testing which clearly differs greatly from the U.S.'s policy on those tests. At the end of the day, the U.S. has produced a life insurance system which is robustly competitive, more innovative, one with better prices and thus a system which has higher uptake than many other countries. Dr. Rengachary stated that he believes U.S. consumers would like to keep that current system.

Rep. Deborah Ferguson (AR) stated that the U.S. has domestic life insurance companies that write policies overseas and asked if those companies have left the countries that have enacted bans on using genetic testing information in underwriting. Mr. Rothstein stated that he has seen no evidence of that. Dr. Rengachary stated that he does not want some of the legislation in other countries to be seen as successful. Two pieces of the legislation referenced are one and two years old. So, for a life insurance system that requires a long lens of decades of analysis, how much do we really know after one or two years? There have been some companies, especially in the living benefits area since genetic testing is more relevant to living benefits in some ways, pull back on the types of products that they were willing to offer because of the types of genetic testing bans referenced.

DISCUSSION ON LIFE INSURANCE UNDERWRITING TRENDS AND DEVELOPMENTS

Colin Devine, Principal of C. Devine and Associates, stated that he is currently involved with a venture fund called Health Catalyst Capital that works with InsurTechs and one of the portfolio companies is Clareto. Mr. Devine stated that he believes the technology used by Clareto has the potential to be the most dramatic change ever seen in life insurance underwriting, not because it introduced some sort of new testing but basically because it takes the process which is based on mail and faxes into this century by speeding it up. Mr. Devine stated that the life insurance industry is not growing despite the demographics still being favorable. Some problems include legacy liabilities and low interest rates make it difficult to price products today. Also, recruiting has become a concern in this industry as it is difficult to find people to come into the industry and wait a year to get paid in getting their first commission check. Technology can help alleviate those problems. Mr. Devine stated that if you look at life insurance sales, the industry is somewhat stuck in the mud. The number of policies being sold is actually going down. Even though people need the product, on an inflation-adjusted basis the industry is losing ground.

Mr. Devine stated that when discussing how life insurers make money, it is all about underwriting and there are four basic pricing assumptions. One is mortality – how long is someone going to live. Another is long-term interest rates – what can be earned on the premiums; another is lapses – how long will the product be in-force; and the last is operating expenses. InsurTech can come into play in this area in several ways, one of which is risk selection. Certainly, over the past few years the use of rx data has become standard and has made a big difference. Big data and genetics also make a big difference. Behavior engagement also plays a big role. Mr. Devine stated that with interest rates remaining stagnant, lapses not being able to be controlled, risk selection being able to be improved a little, operating expenses becomes the biggest opportunity to have meaningful change.

Mr. Devine stated that InsurTech can be viewed as both an enabler and disruptor. About a decade ago, the health and life industries went their separate ways and now they are coming back together because what underpins underwriting is health data – it is all about the medical records. Mr. Devine also noted that people typically don't like buying life insurance because it takes too long to get a policy. For every legislator present at the meeting today, Mr. Devine stated that no one would get a policy issued for more than \$100,000 in under three months. We are in an Amazon-prime world and people want products instantly. Additionally, the actual underwriting for that three-month policy is ten hours at most. The rest of the time is spent chasing down medical records and doing the paramed exam which in many cases the applicant did not even need. Accordingly, changing the speed of accessing medical records can greatly improve the speed of the overall underwriting process and make for a better experience.

Mr. Devine stated that the use of big data analytics is real and being used. Currently, on a very granular basis everyone present at this meeting could be underwritten against everybody who has been in the Medicare-Medicaid database on a non-differentiated basis, living and dead. That is interesting because the answer of whether or not someone who has had a heart attack is a better or worse risk is that it depends. Men typically clean up their diets for about 12 months and then go back to the way they were. However, women often change their diets and lifestyles and become a much better risk. That is how you can use big data to better assess and offer coverage to people who may have not been able to receive it.

Mr. Devine stated that John Hancock probably has the most advanced case of utilizing technology in their platform. They launched a program called Vitality that uses the Apple Watch to monitor certain things. Principal Financial has a similar engagement type platform. Transamerica/Aegon also just launched their platform that utilizes the Apple Watch. With John Hancock, the Apple Watch can help reduce premiums and provides rewards to policyholders – so it engages people to live healthy lives. Life insurers want everyone to live until 110. Apple Watches are therefore arguably medical devices and whether or not companies get comfortable enough to underwrite based on that data is a different discussion, but it does improve risk-selection in terms of what somebody does post-issue.

Mr. Devine stated that one of the companies he is involved with is Cardiogram which is an app underpinned by artificial intelligence and developed by former google engineers. Over 2 million people use the app every day and they mirror the U.S. population – they are not all triathletes. The app essentially works as a check engine light as it will alert the user to a few types of health conditions. 40% of people with atrial fibrillation do not know they have it. Hypertension is 20% undiagnosed. Sleep apnea is 80% diagnosed. 36% of people with diabetes do not know they have it and the app can actually pick-up pre-diabetes based on a heart rate. That is why companies are starting to look at this type of technology. Mr. Devine stated that John Hancock also released a new program called Aspire which is aimed at diabetics to help them live a healthier lifestyle so that they can be offered coverage.

Dave Dorans, CEO of Clareto, stated that Clareto launched a product about two years ago which is referred to internally as Patient Authorized Data (PAD) solutions that Clareto believes can revolutionize the life underwriting process. Mr. Dorans stated that consumers are put into a tough choice of deciding to get a fully underwritten product which takes weeks upon weeks and it is an extremely painful process whereby the paramedical comes to your house and you probably have to take time off work. Or a consumer can get a simplified issue product and pay a dramatically higher premium. The situation is unfair to consumers because they are typically not knowledgeable about the products available so very often, they are being railroaded down a certain path. Accelerated underwriting has really hit the industry the past several years where insurers are trying to essentially give a fully underwritten rate without having to through all the tests. There was even a scenario where the time from signing the application to the time of passing away was 29 minutes – a stage four cancer patient. As an industry, a way was needed to fix that because the underwriting models used today have high costs, long cycle times, and it is very inconvenient for the consumer.

Mr. Dorans stated that he believes that electronic health data can be a significant savior to radically change not just the underwriting process but also the issues of new agents not entering the business. Agents don't want to enter the life insurance business and P&C agents don't want to sell life insurance because its too much trouble and too much paperwork. Some of the tools that are being made available now in the electronic health data space can fundamentally change those problems. Clareto was formed about three years ago with a healthcare foundation so it understands healthcare and a lot of the interoperability issues and therefore progress is being made on the healthcare side to bring those tools to the life space.

There are opportunities to bridge the life and health industries to radically change the underwriting process and make it fairer and simpler for everybody. By making the

process simpler, the protection gap can also be lessened. If you look at the agents that are left in the business, they are no longer serving the middle market and have moved upstream to sell \$5-10 million policies to wealthy people and that contributes to the protection gap. Mr. Dorans stated that the real breakthrough in the way health data is being received is using the concept of health information exchanges (HIEs). HIEs have been around since the 1990s but there was a big boost to the HIE concept after the Affordable Care Act (ACA) and the Health Information Technology for Economic and Clinical Health (HITECH) Act were enacted which put about \$500 million in federal funding into building up HIEs to be the backbone of interoperability. About another \$500 million in state funding has also been added to that.

Mr. Dorans stated that some of the HIEs did a fantastic job and signed up all of the hospitals and doctors in their area. Some did a mediocre job, and some did a poor job. But for the HIEs that are in existence and the ones that are starting to come back into existence, Clareto believes that the life insurance use case not only helps the life insurance industry and helps the consumer but also is a potential source of funding for HIEs because life insurers are willing to provide funding to the data that HIEs have access to. Most HIEs operate on a statewide or regional basis and some are still governmental entities and non-profits. About a handful are profitable organizations but that is not the ethnical model. Most often the HIE is a statewide designated entity but there are some states that have several, such as California which has about seven or eight HIEs that operate in regions across the state. Texas has a number of HIEs as well. Clareto believes that HIEs are an ideal methodology in order to get the best data that you can get and radically transform the system.

Mr. Dorans stated that the case study that Clareto is following and is what Clareto uses when discussing with HIEs why the life insurance model makes sense is one in which the Social Security Administration (SSA) has been doing since 2009. The SSA underwrites about three million disability claims per year and they started using HIEs and other sources of electronic health records to great success. That is the example being followed by Clareto to try and deliver this method to life insurance companies. Clareto operates a HIE in central Virginia and the beauty of that is that there are different medical systems. If a patient shows up in the emergency room at VCU at midnight on Saturday night, the doctors at that hospital can tap into the HIE and download the medical records of that patient from any hospital or physician that participates in the HIE. In addition to saving lives, that can save money in healthcare costs because it can remove the situation of ordering an MRI for someone on Thursday who just had one on Monday at a different physician. If everyone participates and everyone puts their data into the HIE, then everyone can use the data in appropriate ways on the backside. Clareto was one of the pioneers in setting up the e-health exchange which is the predominate way of sharing this information back and forth.

Mr. Dorans stated that Clareto is going to be that single point of access to be able to go out and put together HIEs around the country. Clareto is working with HIEs across the country to convince them of the value of this use case and the opportunity to help doctors and patients. Under the typical model for a doctor's office, when a request comes in someone has to stop treating patients, dig through files and then deliver records via a fax machine. That entire process takes about three weeks and there is an opportunity to do it in just minutes. Mr. Dorans stated that there are a couple of other methods that are available to get medical information for life insurance and there are companies out there doing all of them. One of them is to access the patient portals that

doctors give access to now with a username and password. From the life insurance perspective there are a couple of problems with that, one of which is anti-selection as it really does put the patient in the position of saying "I will give you the credentials of my podiatrist but I might forget to give you the credentials of my oncologist." The other problem is that doctors don't always put a very true and rich record into it because they don't want to transmit that much bad information directly to patients. Mr. Dorans stated that another option is to work with the big EMR vendors which provide the software to the doctors but the big problem with that is that it puts the insurance company or even the patient in the place of needing to know what software their doctor uses and nobody really knows that.

Clareto loves the HIE model because it is EMR-system agnostic and Mr. Dorans noted that it would be great if legislation was passed that encouraged people to utilize in HIEs. In North Carolina, legislation was passed last year imposing a penalty on anyone in the statewide Medicaid reimbursement if the doctor doesn't participate in the state designated HIE. The vast majority of benefits that it provides is for patient care and interoperability in healthcare, but it has ripple effects that go down the line. It is in everyone's interest for everyone's information to be held within an HIE as they are stewards of the data and are only going to use it in appropriate situations.

Mr. Dorans noted that Colorado has given Clareto access to 88% of its citizens and Clareto has all of the appropriate data security information in place. Clareto also did a deal with Missouri, NYC/Long Island, Utah, Delaware, Utah, and New Mexico. Clareto is now in a position to deliver within a matter of minutes, high-quality medical data to the life insurance company that they can use to make decisions to deliver the Amazon-type experience to the consumer and remove the scenario of getting blood tests and other lengthy tests completed. As a benefit, the life insurers are willing to pay for the data. It is of course illegal to sell health data, but they can be reimbursed for their efforts. The HIEs, which are struggling because of the disappearance of federal and other funding, benefit from the life insurer funds so that they can increase their sustainability over the coming years. This is an opportunity for a win-win-win.

Mr. Dorans stated that there are a lot of other opportunities to use HIEs across multiple underwriting scenarios, the first of which is the replacement of the traditional attending physician statement (APS), a document which takes weeks to get. One carrier that Clareto has been working with ordered four records and they were able to be delivered in about 45 seconds and the carrier stated that the records were all they needed to issue the policy and they were able to cancel any additional requirements that were needed and instantly send the policy off to issue in one day as opposed to the traditional process. Mr. Dorans also stated that HIEs are an opportunity to beat down some of the anti-selection that is out there. There is a possibility to start ordering records on everybody and not just people who are going to have APS's and have a better risk selection across the board and improve the quality of the pools. More information at the point of sale seems to be the fairest thing for everybody. HIEs can also really start to move us into the accelerated underwriting world where we start to move all of the policies very quickly and make decisions within minutes or hours as opposed to having to wait weeks.

Rep. Ferguson asked if Clareto's HIE is interoperable with EMRs for insurance purposes. Mr. Dorans stated that Clareto does two things – it runs a standard HIE in Virginia and that is for all purposes; but it also has harnessed the knowledge about how

to run an HIE and how to get data and interchange data between different systems so Clareto is now traveling around the country within the same company but in a different division – PAD – and signing up other HIEs with Clarteo being the middle-man. So, if any of the 800 life insurance companies wants to get data, they can come to Clarteo which will sign up all the HIEs around the country and connect the two so that they don't have to make point to point connections.

Rep. Ferguson stated that she has become pessimistic about the interoperability of EMRs particularly when you look at the big two – Epic and Cerner – that because of proprietary reasons don't have any incentive to do interoperability in hospital systems. Rep. Ferguson stated that in her city in Arkansas, one hospital is with Epic and because they want to protect their managed care organization (MCO), there is no incentive to be interoperable. Unfortunately, when the ACA was enacted there was no requirement for interoperability but rather a suggestion. Mr. Dorans stated that he agreed with Rep. Ferguson and noted that when he was introduced to this idea, he was in the life insurance industry and did not even know what an HIE was. There is a bias baked into the cake that EMR vendors want to compete against each other and if a \$300 million dollar Epic system is going to talk just as well as the \$200,000 system bought from Practice Fusion, you are not going to want to make them talk to each other because no one is going to want to buy the top-rated brand. Because HIEs are non-profit and because some are run by the states, they are agnostic to that and really just about patient care and exchanging data back and forth between systems. The e-health exchange was formed and has come up with a standardized format that can take data from entities such as Epic, Cerner, or Practice Fusion and exchange that data with physicians and insurance companies.

Rep. Ferguson stated that she believes it becomes pretty cost prohibitive for the health exchanges to do that in some cases because they are constantly updating their systems and to keep writing that integration is cost prohibitive. Mr. Dorans stated that it is not cost prohibitive and the opportunity for HIEs is to embrace alternative use cases that have the opportunity to actually be revenue generating to them as opposed to costing money and using that to underwrite the activities they want to provide to the community on the treatment side.

Sen. Mark Johnson (AR) asked if the industry is looking towards something that might be analogous to a FICO score such that if your "health score" is a certain number then you have some faster track to medical underwriting; and if you had a bad score that would not mean you couldn't get life insurance but just that you would go on the slow trail so to speak. Mr. Dorans stated that step one would be putting together the network and making all of the data available before deciding who the scorekeeper would be. It is a fantastic idea, but the problem is first getting all of the data and progress is being made on that front. Mr. Devine noted that the issue is getting that data in a standard format and then once you have it and insurers are comfortable with it, underwriting is very slow to embrace change because underwriters realize that they have to live with any mistakes made. Just getting underwriters to go from the fax machine to an electronic record has been a journey.

ADJOURNMENT

There being no further business, the Committee adjourned at 4:45 p.m.