

## Preferred Plus

By Al Klein

### A Few Recipients

Ruth looked at her arm and saw the red dot. She cursed to herself that she had not gone for the treatment sooner. Just then the nurse came, said “open wide”. The nurse swabbed the top of her tongue with what looked like a long stick with a cotton ball at the end. She then proceeded to rub both sides of her mouth with same cotton ball, and placed it in something that looked like a test tube with liquid at the bottom. She pulled out a scissors, cut a couple of strands of hair from her head and put it in a similar test tube, also with some liquid at the bottom. She then told Ruth to look at her portal sometime after 10:00 in the morning. Ruth never realized applying for insurance was this easy after the horror stories she had been told. Then, remembering her arm, she breathed a sigh of relief realizing the nurse had not seen the red dot.

Tonya came to see Al because she had some type of autoimmune disease. Autoimmune diseases were becoming more and more common, especially over the last five years in particular. Most people didn’t understand how they got them later in life or how to avoid them, or they certainly would have tried.

Isaac was interested in purchasing some additional health insurance coverage, besides what his company provided, as he was worried about this recent increase in unexpected and sometimes alarming health conditions. He did a little research on the Global, not knowing exactly what he was looking for, and found an interesting story about some guy named Al.

Fern recently had her second child and realized she needed some life insurance to provide support to her children if she or her husband were to unfortunately die before her children were grown. She knew that the life insurance proceeds could be used for child support, allowing the surviving spouse to continue working and earning money to pay for everything else, such as the food and mortgage. This income, along with some of the proceeds from the life insurance policy, could also be used to help fund the college education for Fern’s children. A friend of hers suggested she see Al.

### One Year Earlier (2189)

Al was the chief pricing actuary for Healthy Life Insurance Company. He was not only responsible for setting pricing assumptions, but also for the experience studies as well. He had a staff of five who helped him with this work.

Al recently noticed a disturbing trend. The experience studies were showing a decline in the percentage qualifying for not only the best preferred class, but now for all of the preferred classes, and the percentage qualifying for the standard classes had more than doubled in the last five years. Substandard applicants also increased from 5% to over 10% in this time period. He knew this had something to do with the environment everyone was living in, pollution seemed to be increasingly difficult to combat, but he thought it might be due to something more.

He asked Ingrid, his main experience study actuary, to meet him in his office. Al explained the situation to Ingrid, and she indicated that she had noticed this too. Al asked her to take a look at the algorithm

they were using to determine the risk class an applicant qualified for. Ingrid also had this responsibility, and was next in line to replace Al if he moved on to a different role at Healthy Life.

Al internally cringed every time he heard of used the word “algorithm” because it reminded him of AI or artificial intelligence. Al had developed the nickname “Artificial”, which he hated, because of the similarities between Al (his name) and AI (artificial intelligence).

Ingrid said she would look into it and get back to him.

Al’s best friend at Healthy Life was Craig, the chief underwriter. They always had great intellectual discussions about the company and many other things. One shared interest was health in general, and more specifically both individual and general population health, especially as that topic was also a part of their job. Al and Craig were also social friends. They and their wives often got together socially. Craig’s wife Isabelle worked for a technology company. Amy, Al’s wife, worked for a waste disposal company.

### The Technology

Back in 2026, after much work and trial and error, a company called Crispr Therapeutics AG developed and perfected an approach to gene editing. CRISPR-Cas9 was adapted from a naturally occurring genome editing system in bacteria. The bacteria captures pieces of DNA from invading viruses and uses them to create DNA segments. These segments allow the bacteria to “remember” the viruses.

The essence of CRISPR was simple. It was a way of finding a specific piece of DNA in a cell and then editing the gene to alter that piece of DNA. This could be used to correct a flaw in the DNA or improve it in some way.

CRPSR transformed medicine, allowing for not only the treatment of diseases, but also their prevention. This is what they called a “game changer” back then.

Cas9 is a protein that can easily be programmed to find and bind to almost any desired target by simply giving it a piece of RNA to guide it in its search.

The CRISPR Cas9 protein is paired with a piece of hybrid or guide RNA and inserted into a cell. RNA is a molecule, similar to DNA, that is essential in various biological roles, including coding, decoding, and the regulation of genes. The Cas9 protein hooks up with the guide RNA and then moves along the strands of DNA in a cell until it finds and binds to a 20-DNA-letter long sequence that matches part of the guide RNA sequence. This is amazing, given that the DNA in each of our cells has six billion letters. While there are other approaches to genetic editing, this approach of using the noncoding RNA guide to target DNA for a site-specific cleavage is simpler.

What happens next can vary. The standard Cas9 protein cuts the DNA at the target. When the cut is repaired, mutations are introduced that usually disable a gene. This is by far the most common use of CRISPR. It’s called genome editing or gene editing, but usually the results are not as precise as that term implies.

CRISPR can also be used to make precise changes such as replacing faulty genes. This is true genome editing, but it is far more difficult.

Customized Cas9 proteins have been created that do not cut DNA or alter it in any way, but merely turn genes on or off. Yet others, called base editors, change one letter of the DNA code to another.

These bits of DNA are what gave CRISPR its name – clustered regularly interspaced short palindromic repeats.

The following link can provide more information on CRISPR: <https://www.newscientist.com/term/what-is-crispr/>

### Isabelle

Isabelle was a brilliant scientist. She worked for a company called Gene Therapeutics. There was much known about the genome today. Back when CRISPR was being perfected, only 5% of the genome was understood, and that was only to a certain extent. Today, almost 85% of the genome is understood inside and out. What was primitively done to correct genes was now completed with much more precision and certainty, and one treatment would last a lifetime.

Isabelle was right in the middle of this, working with scientists around the world to perfect not just what combination of genes needed to be manipulated, but how and by how much. She also was at the forefront of designing the machine and methodology for administering the treatment.

### Experience Study Research

It took Ingrid several days to get back to AI. She was surprised that their “automatic finder” algorithm did not automatically provide them with this finding upfront. She first confirmed the accuracy of the numbers, checked the algorithm, and then checked with five of her friends at other companies to see if they had the same result. All but one confirmed her finding.

Ingrid discussed her findings with AI and showed him the data. It indicated that this problem first materialized about five years ago and then grew rapidly to the most recent study, which was completed a month ago. Her analysis showed only 6% of the applicants qualified for their Preferred Plus class, the best underwriting class at Healthy Life. Five years earlier, the qualifying percentage was near 30%. Ingrid double-checked that there was only one minor change in their supplemental underwriting algorithm in that period, and confirmed that that alone could not have had this level of impact.

She next checked to see if she could pinpoint where this was coming from, but nothing stood out by age, gender, etc. Ingrid then utilized her event/trend scanner and set it for ten years to see if something during this period could have caused this change in health. All she could find that could be considered somewhat relevant was some information about a new food supplement that was supposed to improve cognitive abilities. After the initial introduction of this supplement, there was tremendous excitement about its potential, companies began to add it to as many foods as possible and as quickly as possible. Ingrid could not remember the name of the supplement, but remembered its initials, HFCS.

### AI

AI enjoyed his career immensely. He enjoyed both solving problems and helping people. He was a frequent mentor to his staff and others. He attempted to design life insurance products that were both affordable and had features would benefit the policyholders. He was loved by Healthy Life’s agents.

This is unusual in that accommodating policyholders and agents often were at odds. But AI was able to use his marketing skills with the agents, and they appreciated this.

AI also enjoyed technology and learning as much about it as possible, even AI, although as mentioned above he did not have a fondness for the term “artificial”.

AI always enjoyed challenges and he was trying to think about what his next challenge might be.

#### AI and Amy, Isabelle and Craig

It was a Saturday night and this social dinner between friends ended up in a very deep discussion between AI and Isabelle. Isabelle explained that she was about to complete what could be considered a black box that could, with the turn of knob, provide genetic modifications for over 100 different impairments. Impairments was the term used inside and outside insurance circles. While diseases had not gone away, they were no longer called “diseases”; “impairments” was the new socially acceptable term.

AI became extremely interested in Isabelle’s story, listening intently and trying to learn as much as could about this innovation.

Amy and Craig were bored out of their minds with this conversation and turned to a discussion about the latest changes that were going to take place with the People Movers. These were no longer called cars, automobiles, buses, or taxis. These were truly people movers and the changes coming were all about further comfort for the passengers.

#### People Movers

People Movers could quickly transport people around the world in a fraction of the time of the older airplanes. The design and capabilities were passed on to us from the “aliens” we had befriended about 50 years ago. But this deserves a whole story by itself.

Transportation for the last 20 years or so had been by People Movers. These were like pods that could seat various numbers of people, from 1 to 250. They were working on developing pods that had the ability to transport more than 250, as this is being written.

#### Experience Study Research – Part 2

Ingrid asked AI if he thought anything could cause this dramatic a change this quickly. He didn’t think that was possible, but asked Ingrid to do further research.

#### The Food Supplement

The food supplement was something called HFCS. Very few people recalled the addictive and terrible health consequences from this food supplement that was common over 100 years ago and eventually led to a huge deterioration in the health and longevity of many in the U.S. before it was finally agreed to eliminate this food supplement, back then they thought forever.

## Isabelle – Part 2

Isabelle called Al excitedly after completing her “black box” assignment at Gene Therapeutics. Her voice was shaking excitedly. I completed the machine that will allow genetic editing quickly and efficiently for many impairments. I have the machine at home. Can you come over to see it and how it works?

Al was also excited and told Isabelle he would stop by that night. He called Amy to tell her he was going to Isabelle’s house to see her invention and that he would be home a little late.

### The Visit

Al left work early, as he could not wait to see Isabelle’s invention. Isabelle let him in and took him to their back den where this truly black box sat. Isabelle first gave Al a tour of the box. There were three knobs on the front. Isabelle explained that the first one was turned to select the impairment to fix. The middle knob controlled the strength of the dosage, and the one on the right allowed for variations on the impairment. She explained if you needed to fix the genes related to hearing, for example, the dosage depended on whether the problem was related to hearing loss, tinnitus, Meniere’s disease, for example. There was a tray at the top that when slid into position, allowed for the sterile liquid plasma to be inserted. This liquid plasma is what delivers the appropriate guide RNA and Cas9 proteins.

Al listened intently. “Any questions?” Al was awestruck and couldn’t speak.

Isabelle continued, “Craig told me you were potentially considering a change in employment. How would you like to partner with me on helping people get well? One dose and they are forever cured.”

### The Decision

Al had told Isabelle to give him a week to think about this. He discussed the idea with Amy, who was completely against it, as Amy was not a risk taker.

Al struggled with his decision. He was really excited about how he could help people on such a large scale and help them permanently rid themselves of almost any impairment. He had trouble sleeping, as he could not stop thinking about the consequences of all of this.

After two days, Al called Isabelle to ask her two questions.

First, how could Isabelle just use this tool when she designed it for her company? And second, could he test it on himself to see how it worked?

### Fern

Fern was the exact type of person (and family) Al enjoyed helping, a young family with children. They had their whole future in front of them. And this was another “mentoring” opportunity for Al.

### The Decision – Part 2

Al decided to go into business with Isabelle. Isabelle could not quit her job, but she was knowledgeable enough to be able to purchase the materials needed and build another machine. She indicated that it would take her about a month to complete.

This was perfect for Al as he could give his company longer notice than usual before he left. He could also help Ingrid take over for him and help her in any way needed.

Al spent every extra moment figuring out how to start this business before the machine was ready.

### The Deal

The deal was that Isabelle would take 25% of the profits for her expertise and building the tool, but she would have very limited involvement in the actual running of the business, really just responding to technical issues.

### Advertising

Advertising was the first order of business and easy. The Global had replaced all forms of communication and social media in all countries, so that was the one place to turn to. You could be either a buyer or seller on the Global. As a buyer, you just choose the category or categories you want to look at they will all be displayed. This is called reviewing (it used to be called “surfing” years ago). The Global will then prompt you with a number of different additional categories to choose from to help you with your review (this used to be called “search”). Often it took 3-4 additional category choices to get to a short list of what you were specifically interested in.

And setting up the advertising was also easy. Anyone could do it. When you first looked at Global, your choices were simply Review or Add. If you wanted to add an advertisement or any additional information, you just selected Add and followed the simple steps from there, including choosing the categories you wanted to fall under, again prompted with choices by the Global.

### The Business

Al and Isabelle created the name A1 Health for the company. Al’s goal was to improve the health and well-being of all individuals in the world. But he also had a very specific focus – he wanted to help people qualify for life insurance at the best possible rates, i.e., at the Preferred Plus class rates.

The business became almost an instant success. And each successful treatment of a recipient, word of mouth, and the stories written benefited Al and A1 Health.

### People Movers – Part 2

In addition to the advertising and stories, another reason for the rapid success of A1 Health were the People Movers as these could rapidly transport people from around the world to visit A1 Health for treatment. All they had to do was make an appointment and hop in a People Mover.

### Tonya

Tonya was 37 and from Sweden. The U.S. wasn’t alone in its recent growth in autoimmune disease. Tonya had no idea how she all of a sudden got the disease, but she didn’t like it as the disease had begun to have an impact on the lifestyle she wanted to live.

Tonya searched the Global and quickly came across Al’s offering. This intrigued her so she read a handful of recommendations and decided the treatment was for her. The first appointment she could find that worked for her was about two months out, so she made an appointment and booked a hotel

for the night following the procedure. She chose an afternoon appointment, allowing her to arrive the morning of the appointment with the time difference.

She determined the time it would take for the People Mover to deliver her to the building Al's office was in and figured to leave a two-hour cushion, as People Mover traffic had begun to increase recently.

On the morning of her appointment, Sweden time, Tonya entered her People Mover, ready for the long day ahead of her.

### The Treatment

The treatment including the prep-work took less than an hour. The first step upon entering the office was for the patient to confirm all of the information either they or their doctor had previously provided, including any changes since the date the Health Record was last updated.

The next step was for the nurse to answer any questions about the procedures. There were generally many questions each patient had, despite reading everything about the procedure before and/or after signing up. Questions typically included, what will be injected into me, how long will the procedure take, and how long is the recovery.

The procedure always takes three minutes and the effects should be noticed the next day. There is really no recovery time, other than not doing anything strenuously the day of the treatment. As mentioned above, what gets injected is plasma containing Cas9 protein and the guide RNA.

The only other recovery is for the mysterious red dot from the injection site to disappear, and this happens like clockwork after seven days. This does not matter from a health standpoint, but with some insurance companies still concerned about the injection, even after the lawsuit, Al always recommends waiting at least seven days after the treatment to apply for insurance.

Al operates the machine from behind a curtain. He indicated he felt like the Wizard of Oz, only that his machine actually worked!

The steps involved are done almost automatically and have been pre-recorded into the machine. What it does is, based on what needs to be fixed, it decides on the gene to modify and the protein to use. It then designs the guide RNA and assembles everything into a liquid plasma, which is injected into the patient. All Al has to do is to turn the dial to the impairment that needs to be corrected, and pushes a button to create the plasma. This process takes about 30 seconds from when Al pushes the button, so he makes each batch fresh for each patient.

### Results from the Treatment

In addition to increasing the chances of a Preferred Plus rating when applying for insurance, the administration of the plasma causes a permanent change in the individual's health with respect to the impairment it was administered for. Al has had a 100% success rate.

### The Success

The success was both good and bad. The success brought improvements in many lives and acclaim for Al and A1 Health.

However, there was also a bad side. Some insurance companies became upset about what they considered uncertain results and took action. When Al learned of this issue, he advised his recipients to wait seven days before applying for any life or health insurance, as the companies were on the lookout for that telltale red dot.

### Application Changes

The first change was for companies to incorporate an application change, specifically asking an applicant if they had received a treatment from A1 Health.

Al couldn't believe it. He worked for many years on appropriate wording for life insurance applications. Now, with his new innovation, he was beginning to appear on companies revised applications!

### The Lawsuit

The more serious of the actions was that several insurance companies banded together and filed a lawsuit against A1 Health. They charged unfair discrimination against their underwriting parameters, that people could appear to have temporary amazing health conditions that could eventually return to average health, impacting their companies' long term profitability. They sought a restraining order on the use the "Genetic Black Box".

### A1 Health

Al was able to continue to provide new found health to the recipients of his treatment. Isaac was one of many who provided glowing reviews about the ease and unobtrusiveness of the treatment and how wonderful he felt after receiving the treatment.

### The Lawsuit – Part 2

Al was required to testify. He had his daughter, Leslie, help prepare for questions he might face. Leslie was an attorney, and happened to be a prosecutor, so she knew the tricks of the trade. She actually offered to represent him, but he didn't want to put her through it.

With the money he had made even in such a short period of time, he could afford a good attorney.

Isabelle was also brought in to testify on the research behind the treatment. She spent about an hour explaining it all and then another hour fielding questions.

Al spent over eight hours explaining how he began, what he does, the types of clients he gets, and the outcomes immediately after application. He also explained the follow up he did, and that not one recipient had a complaint. Al did the follow ups because he wanted to make sure his treatment was as powerful as he thought it would be, and that it lasted.

A real tactic included finding issue, cause, interest, and lack of reason for the claim. This was used in Al's defense. Al's attorney seemed to do a good job objecting when needed, and asking for a recess when Al appeared to be tiring.

Al was drained when the testimony was over.



### The verdict

The judge seemed to be sympathetic to Al and his goal to improve the health and wellbeing of those around the world. But it wasn't the judge's decision. This was a jury trial.

The verdict came back not guilty. Al had triumphed over big business and the insurance companies he had previously enjoyed working with.

### Epilogue

Al continued the business for twelve years, reaching his goal of helping 10,000 lives, and not one mishap. Not many can say they helped so many lives in their lifetime. Al began enjoying retirement with Amy, their children, and grandchildren.

Never would one have thought that an actuary would "save the world", but Al's primary goal in all of this was always "Preferred Plus" for his recipients.

### After Thought

Now, this was a great story, but don't forget Al was nicknamed "Artificial" for a reason.