

Building Healthcare OS, A Conversation with Ardy Arianpour, CEO at SEQSTER

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SEQSTER



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Episode Highlights

- SEQSTER is a health data integration platform that aggregates, manages, and analyzes medical information from various sources in one place
- There is a need to standardize patient information and coding data from various sources – including EMRs, genomics, claims, etc
- SEQSTER platform created a data refinery with an auto sync feature that standardizes coding and integrates data from various EMRs
- Tokenization is a security measure for de-identifying sensitive patient data
- Clinical trials have high drop-out rates, hence patient recruitment typically follows a “Leaky Pipe” model
- According to Advarra, on average, 18% of patients randomized end up dropping out of the trial
- SEQSTER’s Digital Front Door dashboard offers data transparency and visualization, which helps to lower clinical trial dropout rate as patients feel informed and engaged
- There are opportunities to incorporate pharmacy data in clinical trials, as it provides the opportunity to collect diverse data from underserved populations
- For the future of Healthcare data processing, device data will be increasingly important as we witness continued technology advances in personal health devices from a Dexcom to health apps to wearable fitness trackers

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Episode Transcript



Frederic Laurier (00:06):

I am Frederic Laurier with Alantra. I head up the firm's digital health investment banking practice. On today's episode of Crossroads by Alantra, we have Ardy Arianpour, CEO and Co-Founder of SEQSTER. SEQSTER has created an application that gives consumers access to their health data by connecting various clinical data sets and unifying them into a single record. Ardy, did I get all of that right?



Ardy Arianpour (00:30):

Fred, thanks so much for reaching out. A pleasure to be on your wonderful podcast. Yeah, you got that right. We've been able to progress so much since we founded the company in 2016. We founded the company on the premise of putting the patient at the center of healthcare to disrupt data silos and bringing together EMR data, genomics data, claims data, medical device data, and creating that longitudinal health record. Now with our partners over the past couple years and commercial deals that we've had, we've really transitioned into an operating system for healthcare.



Frederic Laurier (01:10):

Interesting. You are also known in the industry for your marketing acumen and dressing style. At trade shows, it's not uncommon to see you with your distinctive green SEQSTER t-shirt and your matching Converse shoes. Are you wearing them today?



Ardy Arianpour (01:23):

I am wearing them. As you can see, I got some new SEQSTER swag. I got my SEQSTER hoodie and on the back, if you can see what it says, it's "seek health data". And then I got my cool hat and on the back of that, it says seek health data and the Converse shoes at home. It just really depends on whom I'm talking to. If I'm talking to someone of your stature, of course, I'm putting them on.



Frederic Laurier (01:47):

Love it. Before you founded SEQSTER, you actually held various commercial positions within the pharma industry. You spent a number of years at Ambry, if I'm not mistaken. Where did you meet your two co-founders, Dana and Sean? Was that at Ambry?



Ardy Arianpour (02:01):

Yeah, so actually no, Dana, I met at Whole Foods, and that could be a whole story on its own. Our big anniversary of meeting at Whole Foods back in 2006 should be coming up soon, so maybe you guys will see a post about that soon. But I met Dana at Whole Foods holding his Trek bicycle, because he's a big cyclist. And we happened to be in biotech at a coincidence, and from there it kind of struck friendship and we were always both wanting to do startups. So when I thought of SEQSTER, he was the first person I called. With Sean, this is our third company, and I actually hired Sean when I was at Ambry to run our bioinformatics division when Ambry was just a really, really small company. I was employee number 19 at Ambry and took that company to over a thousand folks and then sold that company to Konica for \$1B, and that's where we got our stars and scars.



Frederic Laurier (02:59):

What was the impetus for founding SEQSTER? Was there a eureka moment for the three of you?

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Ardy Arianpour (03:04):

Yeah, so the eureka moment came from the inception of having all your health data in one place. And I didn't have all the expertise, so I brought on the two co-founders because they had distinct expertise in data science and also in precision medicine. And data science, Sean being probably one of five people out of the United States, I always say, that can do the crazy engineering that no one can. Dana had a vast experience of 25 years plus within precision medicine and working with pharmaceutical companies. He came from Abbott Labs and he understood the pharma world and outsourcing world really well. And once we got together, we accidentally fell on interoperability. We just wanted to create a startup that could connect all the dots of health data. And our lawyers that invested in our seed round are from Paul Hastings and they did actually the deal for mint.com. And once we found that out, we started studying mint.com for finances and then we noticed, wow, there isn't anything like that in healthcare. So we took a FinTech approach and pivoted very quickly when we came out with our direct-to-consumer product.



Frederic Laurier (04:27):

I remember you used to call yourselves kind of the mint.com of healthcare, right? To make it easy for everyone to understand what you're all about. Last time we spoke Ardy, you mentioned SEQSTER is beyond FHIR. Can you please elaborate for the benefit of our listeners? You may be aware that we had 1upHealth on the show a couple of weeks back where Joe Gagnon talked in length about FHIR and what it means for the industry in general.



Ardy Arianpour (04:55):

Yeah, look, FHIR is awesome. We have all the FHIR connectors integrated and built. And when Takeda made an investment, that was the first thing that we did. However, SEQSTER is beyond Fast Healthcare Interoperability Resources because we've built, like I said, an operating system that gets white labeled as a digital front door for enterprises, whether that's payers, providers or pharma companies. The three Ps as I call them, they launch their businesses or patient registries or whatever their use cases may be, powered by SEQSTER, and it's a turnkey SaaS solution that has FHIR full integration within that operating system and multiple different retrievers now to collect real-world data. And so we're able to bring a longitudinal health record together and stitch records together by bringing FHIR and non-FHIR data and what I call the convergence of data in one place.



Frederic Laurier (06:09):

Sensitivity around clinical data sharing is still very much of a hot button these days. But nonetheless, unifying the patient record is a very powerful thing. With the right safeguards in place, I'm guessing it can be extremely useful for clinicians and scientists that are working on new therapies. Can you in a nutshell summarize the steps required to combine those data sources and can you also talk a bit about tokenized patient data? There's a bit of chatter around that. Can you tell us what it actually means and what it actually does?



Ardy Arianpour (06:40):

Yeah, absolutely. So let's tackle the first thing that you stated, Fred. So when we started SEQSTER, we had to standardize and harmonize every single ICD 9, ICD 10, SNOMED, RxNorm code. And how we did that is we built a data refinery on the backend so that once the collection of data occurs, we built an auto sync feature where it automatically brings together the data from an Epic, an Allscripts, a McKesson, a Meditech. We have

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28 various EMRs fully integrated on the backend. And it's really dirty engineering and it's why a lot of tech companies are interested in talking to us. It's why a lot of payers are interested in talking to us.

(07:38):

And the reason why pharma came to us to invest in the beginning was because we had this data refinery built. With our partners, we even expanded the capabilities on the backend so that it has nationwide patient-centric interoperability accesses, we call it. And for the tokenization, we're Switzerland. So it doesn't matter if you're interested in Datavant tokenization or IQVIAs tokenization or PRA Life Sciences Synoma tokenization, we have all of them integrated. But because we are an operating system for healthcare, as I mentioned, the customer, the enterprise, gets to pitch what type of tokenization they want layered in to their platform, which is powered by the SEQSTER OS. That's how it works.



Frederic Laurier (08:37):

What are the real-world impacts of having, or maybe we should say not having all data sources in one place, can you give us an example? I mean in terms of lives potentially saved, dollars saved, what does that look like for Kaiser, for instance?



Ardy Arianpour (08:51):

Yeah, very good question. So we're working with a lot of entities. Obviously we have 99.56% coverage of the digital health records in the United States. But even outside of the United States, we are working with the NHS and we're working with other various different entities that are interested in having an interoperability engine for their patients, for their use cases. A lot of our use cases, obviously, because of the investment from pharma, has been around patient registries and how we can power that for pharma companies and connect the dots for the payor-provider and pharma-provider models.



Frederic Laurier (09:41):

It's global. I promise I'll check it out once we're done. I haven't done so just yet. Also, discussing another value add of what you refer to as your digital front door – if I'm not mistaken, you give patients total visibility into their clinical trials if they decide to enroll in one. Is that correct, first and foremost?



Ardy Arianpour (10:04):

That's correct. And that's where we built the digital front door. And a lot of people in healthcare think about the digital front door for providers where you do scheduling and a bunch of stuff. So imagine that, but for clinical trials. It's amazing innovation. And we built this with hundreds of pharma innovators, pharma physicians, pharma scientists and patients that told us how they want that digital front door to be released. We have partnerships in place with some of the top global pharma and Boehringer Ingelheim being an example of our latest deal. We signed a three-year deal to bring patient-centric interoperability and patient-centric trials for them for their decentralized trials and powering their real-world evidence studies with our real-world data operating system. But they deployed it as a white label and the digital front door allows onboarding, patient engagements, communication, visualization of data, sharing of data, and a lot underneath the hood there.

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Frederic Laurier (11:18):

And patients dropping out of clinical trials is a major issue. I mean, you mentioned some vital roles that you play. Do you help also with the consent form? Often it's the crucial step. That's the step where a patient will decide not to go forward with the trial. How do you help with that and getting them over that hump?



Ardy Arianpour (11:39):

Yeah, really good point there. We spent a lot of time working with both patients and caregivers developing the right e-consent form. So one, it's trusted. Two, it's private. Three, it's secure. And four, it delivers on how a patient would actually share whatever consented data they want through our digital front door that we launch for our pharma partners, our payer partners, our provider partners, the patients, the participants within the trials can actually select to just share their Dexcom medical device data or their allergies data or their lab results data. Depending on the trial, whatever the patients feel comfortable with, they can actually consent to share with at the beginning of onboarding. And we built a customizable approach where any enterprise can launch this within 72 hours. It takes us 72 hours to stand up an instance, fully white labeled for patients, researchers, trials, and the enterprise.



Frederic Laurier (13:00):

And consumers are more and more inclined to use genetic testing services like 23&Me and Ancestry DNA. Do you have any integrations with those consumer genetic testing services?



Ardy Arianpour (13:12):

It's funny that you ask that. This is my 55th podcast around healthcare, health tech, data, the digital health junkie that we both are and we all are, and that's why we do these podcasts. It's interesting that more and more people are asking about our genomics expertise. And our company and myself built a couple mammoth genomic companies before, and so hence the name SEQSTER. Because SEQ was for DNA sequencing and STER was for all the other data. That's how I actually came up with the name.

(13:50):

But we actually have access to over 50 million genotyping exome, whole genome, whether it be research grade or clinical grade or consumer genetics or clinical diagnostic tests across the world, not just across the country. And I want to actually enlighten your audience about one thing. So genomic data is actually interoperable. That's why we started SEQSTER back in 2016. We thought it was going to be so easy. We thought it was going to be a walk in the park because it was ATCG base pairs. It doesn't matter if it comes off an Illumina sequencer, a Lifetech sequencer or a Thermo sequencer or an Oxford Nanopore sequencer, it doesn't matter.



Frederic Laurier (14:41):

Always the same four.



Ardy Arianpour (14:42):

Yeah, genome data is the same. And so our bread and butter was genomics data until we accidentally fell on the interoperability of medical data, healthcare data.

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Frederic Laurier (14:56):

Without divulging secret information or sensitive information, can you talk about what's on the roadmap for SEQSTER in terms of future data source integrations? What's missing and what will it mean for your patients and your customers?



Ardy Arianpour (15:12):

Yeah, what I can share publicly is we've gone the distance as far as we can within medical, genomic, and I would say device data. There are a lot of new avenues coming in with innovations around products that we never thought would need to be connected within a SEQSTER operating system. And that could be a brand new remote patient monitoring device. That could be a brand new wearable. That could be a brand new VR headsets. There's lots of data that's going to be generated well beyond just medical data, and so we're not just stopping at where medical data is at. We're very interested in claims data and how we mix the claims data with the medical data. And we have some very large entities that are coming towards us in that sense because they see the power of our operating system for patients and how it's really patient centered.



Frederic Laurier (16:23):

Can't wait to see the press releases come out, Ardy. A couple of questions and then we'll let you go. You've been extremely generous with your time already. So two last questions if you don't mind. On your website, you mentioned that your platform, or your operating systems, maybe it's a better way to put it, comes with pre-built access to 150,000 hospitals and medical group. That sound to me like a pretty unique asset. What does it mean from a clinical standpoint? Can you share a few examples on how pharma and payers are leveraging that network?



Ardy Arianpour (16:57):

Yeah. A great example of that is actually looking at the patient example. If you look at the tweet from the famous Dr. Eric Topol from August of 2018, he tweets and says, first time I'm able to connect all my health data from 1985 to present with four different health systems, University of Michigan, Scripps, and the other ones that he added, plus his Fitbit and his 23&Me and a bunch of other data, his MyFitness pal, nutrition data, in about 24 hours. So it's not just our vast network now. We're able to bring that data together in 24 milliseconds now.

(17:44):

It's the speed of data. Our algorithms have gotten so fast and our statistical learning tools that we built on the backend, on the engineering side, have really improved over the last seven and a half years of building SEQSTER because we know exactly how to recognize, ingest and standardize the data. And so the 150,000+ number just comes from the nation's providers that we're fully integrated with. We can have any patient around the world that has those providers connect and collect their data within a matter of milliseconds to seconds to not longer than minutes.



Frederic Laurier (18:29):

Quite the technical feat. So the last question. Also on your website you mentioned or it is mentioned that you work with specialty pharmacies. How does it enable precision medicine and personalized treatment? Also, can you discuss quickly what the collection of social determinant contribute to this effort?

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Ardy Arianpour (18:51):

Yeah, so pharmacy data is really important, and that's a whole other avenue where we have some very large pharmacy chains that are interested in trials. They see the big pain points of if they want to make their corner street pharmacies into sites for recruitment, let's say hitting on the underserved populations, getting diverse data, they need an operating system that allows that collection of data. And so there are some exciting things that are happening behind the scenes with pharmacy chains and SEQSTER. Let's see where it goes. That's all I can share there on that point. However, we do get, through our provider network, every single medication that you're on and what you're off. And that also has a lot of value when you're thinking about Walgreens, Walmart, CVS, and the big pharmacy chains. Because they don't have that data. So we can bring data that is on the medication side to the pharmacy chains and really mix things up within the clinical trial setting.



Frederic Laurier (20:08):

Hey, Ardy, it's always a pleasure speaking with you. Today, because we had more time than we usually do, it was great to do a deeper dive on some of those topics. Your founding story is certainly catchy. For those of you interested in the Whole Foods story, please do watch out for that anniversary post. It should be coming out anytime now. It's not every day that we get to talk to a serial entrepreneur and is successful at that like yourself, Ardy. I think you brought us some fresh perspective on the digital front door and the efforts behind building one.

(20:40):

It's exactly what you said. We see doctor clinician dashboards all the time, but we very rarely see a comprehensive dashboard for patients. As bland as it may sound, that enables patient engagement, consent, adherence, and retention. Obviously, that cannot be done without your vast connection, interoperability with EMRs and other healthcare systems. This data sources all in one that has value. A thank you again for your time and we look forward to our next discussion. If you'd like to hear more about Alantra's perspectives on other specific digital health topics, please subscribe to the podcast and feel free to reach out to us at any time.



Ardy Arianpour (21:23):

Thank you so much, Fred. Look forward to seeing you as always, and hopefully we can have a cocktail. Cheers.

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2023 

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Sell-side advisory



2022 

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