

WEBVTT

NOTE duration:"00:16:28.6130000"

NOTE language:en-us

NOTE Confidence: 0.8881749

00:00:00.000 --> 00:00:02.508 It's my pleasure to introduce Doctor

NOTE Confidence: 0.8881749

00:00:02.508 --> 00:00:04.730 Wade Schultz, who is an assistant

NOTE Confidence: 0.8881749

00:00:04.730 --> 00:00:06.110 professor of laboratory medicine

NOTE Confidence: 0.8881749

00:00:06.110 --> 00:00:07.804 and a computational healthcare

NOTE Confidence: 0.8881749

00:00:07.804 --> 00:00:10.618 researcher at Yale School of Medicine.

NOTE Confidence: 0.8881749

00:00:10.620 --> 00:00:12.164 He received his pH.

NOTE Confidence: 0.8881749

00:00:12.164 --> 00:00:13.708 D in microbiology immunology

NOTE Confidence: 0.8881749

00:00:13.708 --> 00:00:15.070 and cancer biology,

NOTE Confidence: 0.8881749

00:00:15.070 --> 00:00:17.266 as well as his medical degree

NOTE Confidence: 0.8881749

00:00:17.266 --> 00:00:19.510 from the University of Minnesota.

NOTE Confidence: 0.8881749

00:00:19.510 --> 00:00:21.967 He is the Director of Informatics for

NOTE Confidence: 0.8881749

00:00:21.967 --> 00:00:24.360 the Department of Laboratory Medicine,

NOTE Confidence: 0.8881749

00:00:24.360 --> 00:00:26.862 director of the Core Center for

NOTE Confidence: 0.8881749

00:00:26.862 --> 00:00:28.530 Computational Health and Medical

NOTE Confidence: 0.8881749

00:00:28.601 --> 00:00:30.815 Director of Data Science for Yale,

NOTE Confidence: 0.8881749

00:00:30.820 --> 00:00:31.932 New Haven Health System.

NOTE Confidence: 0.8881749

00:00:31.932 --> 00:00:33.600 So thank you so much for

NOTE Confidence: 0.8881749

00:00:33.664 --> 00:00:35.200 joining us Doctor Scholl's.

NOTE Confidence: 0.8309002

00:00:36.980 --> 00:00:38.726 Thank you for the introduction and

NOTE Confidence: 0.8309002

00:00:38.726 --> 00:00:40.650 for people who might be on Gallery

NOTE Confidence: 0.8309002

00:00:40.650 --> 00:00:42.603 View and zoom if you switch to either

NOTE Confidence: 0.8309002

00:00:42.603 --> 00:00:44.458 the speaker view or pin my video,

NOTE Confidence: 0.8309002

00:00:44.460 --> 00:00:46.280 that will make it easiest to see

NOTE Confidence: 0.8309002

00:00:46.280 --> 00:00:47.660 the presentation if any issues.

NOTE Confidence: 0.8309002

00:00:47.660 --> 00:00:49.796 Just let me know before I get started.

NOTE Confidence: 0.8309002

00:00:49.800 --> 00:00:51.669 I just really want to acknowledge one.

NOTE Confidence: 0.8309002

00:00:51.670 --> 00:00:53.539 All of the support we've gotten from

NOTE Confidence: 0.8309002

00:00:53.539 --> 00:00:55.145 so many people across the School

NOTE Confidence: 0.8309002

00:00:55.145 --> 00:00:57.230 of Medicine as well as the old New

NOTE Confidence: 0.8309002

00:00:57.230 --> 00:00:59.134 Haven Dr Churchwell being one of them
NOTE Confidence: 0.8309002

00:00:59.134 --> 00:01:00.844 along with rich Lisitano and Lisa
NOTE Confidence: 0.8309002

00:01:00.844 --> 00:01:02.299 Stump and the fantastic collaboration
NOTE Confidence: 0.8309002

00:01:02.299 --> 00:01:04.089 that we have with Charlie Tori to
NOTE Confidence: 0.8309002

00:01:04.089 --> 00:01:05.550 really make this platform a reality.
NOTE Confidence: 0.8309002

00:01:05.550 --> 00:01:07.503 I do have a couple of potential
NOTE Confidence: 0.8309002

00:01:07.503 --> 00:01:08.340 conflicts of interest.
NOTE Confidence: 0.8309002

00:01:08.340 --> 00:01:10.665 Consultant for Hugo Health and
NOTE Confidence: 0.8309002

00:01:10.665 --> 00:01:12.990 a founder for refactor Health.
NOTE Confidence: 0.8309002

00:01:12.990 --> 00:01:14.680 To start off the talk,
NOTE Confidence: 0.8309002

00:01:14.680 --> 00:01:16.577 you know I really want to highlight
NOTE Confidence: 0.8309002

00:01:16.577 --> 00:01:18.272 one what is computational health
NOTE Confidence: 0.8309002

00:01:18.272 --> 00:01:20.738 research and this is really defined.
NOTE Confidence: 0.8309002

00:01:20.740 --> 00:01:22.535 Now is the interdisciplinary application
NOTE Confidence: 0.8309002

00:01:22.535 --> 00:01:24.726 of computer science tools to address
NOTE Confidence: 0.8309002

00:01:24.726 --> 00:01:26.416 health related questions and problems

NOTE Confidence: 0.8309002

00:01:26.416 --> 00:01:28.733 and what this means is really that

NOTE Confidence: 0.8309002

00:01:28.733 --> 00:01:30.243 we want to leverage different

NOTE Confidence: 0.8309002

00:01:30.243 --> 00:01:31.702 components of technology to really

NOTE Confidence: 0.8309002

00:01:31.702 --> 00:01:33.690 advance science and what we do with

NOTE Confidence: 0.8309002

00:01:33.746 --> 00:01:35.496 this within the computational health

NOTE Confidence: 0.8309002

00:01:35.496 --> 00:01:37.246 platform is really leverage high

NOTE Confidence: 0.8309002

00:01:37.302 --> 00:01:38.397 performance computing capabilities

NOTE Confidence: 0.8309002

00:01:38.397 --> 00:01:40.952 layer on top of that data acquisition

NOTE Confidence: 0.8309002

00:01:40.960 --> 00:01:42.192 and data modeling strategies,

NOTE Confidence: 0.8309002

00:01:42.192 --> 00:01:44.780 and then begin to build tools applications.

NOTE Confidence: 0.8309002

00:01:44.780 --> 00:01:47.006 An analytic insights on top of it.

NOTE Confidence: 0.8309002

00:01:47.010 --> 00:01:49.117 This system is really aimed to enable

NOTE Confidence: 0.8309002

00:01:49.117 --> 00:01:50.819 the next generation of healthcare,

NOTE Confidence: 0.8309002

00:01:50.820 --> 00:01:52.160 analytics and integrated insights

NOTE Confidence: 0.8309002

00:01:52.160 --> 00:01:53.835 and something that does Doctor

NOTE Confidence: 0.8309002

00:01:53.835 --> 00:01:55.590 Church will mention during the time.
NOTE Confidence: 0.8309002

00:01:55.590 --> 00:01:56.196 During Covid,
NOTE Confidence: 0.8309002

00:01:56.196 --> 00:01:58.014 we rapidly pivoted to really provide
NOTE Confidence: 0.8309002

00:01:58.014 --> 00:01:59.334 clinical and operational insights
NOTE Confidence: 0.8309002

00:01:59.334 --> 00:02:01.320 into how are we treating patients?
NOTE Confidence: 0.8309002

00:02:01.320 --> 00:02:03.072 What are the outcomes in different
NOTE Confidence: 0.8309002

00:02:03.072 --> 00:02:04.632 populations and to really also
NOTE Confidence: 0.8309002

00:02:04.632 --> 00:02:05.996 accelerate data driven research
NOTE Confidence: 0.8309002

00:02:05.996 --> 00:02:07.360 across the TO2T4 spectrum,
NOTE Confidence: 0.8309002

00:02:07.360 --> 00:02:11.064 which I'll talk about a little bit later.
NOTE Confidence: 0.8309002

00:02:11.070 --> 00:02:13.046 The last piece of this is that we
NOTE Confidence: 0.8309002

00:02:13.046 --> 00:02:15.114 really need to integrate large evolving
NOTE Confidence: 0.8309002

00:02:15.114 --> 00:02:17.009 and heterogeneous datasets to really
NOTE Confidence: 0.8309002

00:02:17.009 --> 00:02:19.258 make use of these data moving forward,
NOTE Confidence: 0.8309002

00:02:19.260 --> 00:02:21.304 being able to integrate data from the
NOTE Confidence: 0.8309002

00:02:21.304 --> 00:02:23.548 HR genomic data sources are real time

NOTE Confidence: 0.8309002

00:02:23.548 --> 00:02:25.504 sensors and devices across the health

NOTE Confidence: 0.8309002

00:02:25.560 --> 00:02:27.765 systems provides a really rich data set,

NOTE Confidence: 0.8309002

00:02:27.770 --> 00:02:30.002 but until we can get those into a

NOTE Confidence: 0.8309002

00:02:30.002 --> 00:02:31.860 single environment where we can link

NOTE Confidence: 0.8309002

00:02:31.860 --> 00:02:33.415 patients across the different data

NOTE Confidence: 0.8309002

00:02:33.415 --> 00:02:35.499 silos and make that available to

NOTE Confidence: 0.8309002

00:02:35.499 --> 00:02:37.214 investigators limits the potential up

NOTE Confidence: 0.8309002

00:02:37.220 --> 00:02:40.524 until we have the back capacity available.

NOTE Confidence: 0.8309002

00:02:40.530 --> 00:02:42.378 The primary goals of this or that

NOTE Confidence: 0.8309002

00:02:42.378 --> 00:02:44.437 you know one when we started this,

NOTE Confidence: 0.8309002

00:02:44.440 --> 00:02:45.982 we were really trying to drive

NOTE Confidence: 0.8309002

00:02:45.982 --> 00:02:47.510 that multi modal data analysis.

NOTE Confidence: 0.8309002

00:02:47.510 --> 00:02:49.178 How can we integrate the clinical,

NOTE Confidence: 0.8309002

00:02:49.180 --> 00:02:51.268 the EHR with genomics or radiology

NOTE Confidence: 0.8309002

00:02:51.268 --> 00:02:52.660 data and so on?

NOTE Confidence: 0.8309002

00:02:52.660 --> 00:02:54.445 We wanted to also make sure that
NOTE Confidence: 0.8309002

00:02:54.445 --> 00:02:56.026 we have the capacity available
NOTE Confidence: 0.8309002

00:02:56.026 --> 00:02:58.288 to allow for AI driven analytics,
NOTE Confidence: 0.8309002

00:02:58.290 --> 00:03:00.618 so making sure that we have the newest
NOTE Confidence: 0.8309002

00:03:00.618 --> 00:03:01.837 computing technology available both
NOTE Confidence: 0.8309002

00:03:01.837 --> 00:03:03.583 from the resources GPU's to really
NOTE Confidence: 0.8309002

00:03:03.583 --> 00:03:05.256 make sure that our investigators
NOTE Confidence: 0.8309002

00:03:05.256 --> 00:03:06.981 could leverage and accelerate the
NOTE Confidence: 0.8309002

00:03:06.981 --> 00:03:08.636 research that they wanted to do,
NOTE Confidence: 0.8309002

00:03:08.636 --> 00:03:10.513 as well as with some focus on
NOTE Confidence: 0.8309002

00:03:10.513 --> 00:03:11.680 precision medicine initiatives
NOTE Confidence: 0.8309002

00:03:11.680 --> 00:03:13.625 such as the generations project,
NOTE Confidence: 0.8309002

00:03:13.630 --> 00:03:15.358 along with all of that we've
NOTE Confidence: 0.8309002

00:03:15.358 --> 00:03:16.510 been trying to integrate
NOTE Confidence: 0.8653239

00:03:16.566 --> 00:03:18.426 real time Insights so that with
NOTE Confidence: 0.8653239

00:03:18.426 --> 00:03:20.068 some of our collaborators say

NOTE Confidence: 0.8653239
00:03:20.068 --> 00:03:21.460 in the emergency Department,
NOTE Confidence: 0.8653239
00:03:21.460 --> 00:03:23.120 making sure that we can.
NOTE Confidence: 0.8653239
00:03:23.120 --> 00:03:24.702 Access data in real time because if
NOTE Confidence: 0.8653239
00:03:24.702 --> 00:03:26.570 you start to build predictive models,
NOTE Confidence: 0.8653239
00:03:26.570 --> 00:03:27.890 say for something like sepsis,
NOTE Confidence: 0.8653239
00:03:27.890 --> 00:03:30.818 it's not useful if you don't can't deliver
NOTE Confidence: 0.8653239
00:03:30.818 --> 00:03:33.967 that until a day after observations are made.
NOTE Confidence: 0.8653239
00:03:33.970 --> 00:03:35.884 Anthem is noting early on, you know,
NOTE Confidence: 0.8653239
00:03:35.884 --> 00:03:37.860 there's a few different areas that we work
NOTE Confidence: 0.8653239
00:03:37.912 --> 00:03:39.910 on with the computational health platform.
NOTE Confidence: 0.8653239
00:03:39.910 --> 00:03:41.758 One of them is the infrastructure and
NOTE Confidence: 0.8653239
00:03:41.758 --> 00:03:43.723 what we've been developing out in our
NOTE Confidence: 0.8653239
00:03:43.723 --> 00:03:45.397 newest version of this platform is
NOTE Confidence: 0.8653239
00:03:45.453 --> 00:03:47.511 making sure that we have a composable
NOTE Confidence: 0.8653239
00:03:47.511 --> 00:03:49.356 architecture that can allow us to scale
NOTE Confidence: 0.8653239

00:03:49.356 --> 00:03:51.508 both our compute as well as our storage
NOTE Confidence: 0.8653239

00:03:51.508 --> 00:03:53.500 as we move between different datasets.
NOTE Confidence: 0.8653239

00:03:53.500 --> 00:03:54.552 Initially, as I noted,
NOTE Confidence: 0.8653239

00:03:54.552 --> 00:03:56.130 you know we're really focused on
NOTE Confidence: 0.8653239

00:03:56.179 --> 00:03:57.841 how can we support generations and
NOTE Confidence: 0.8653239

00:03:57.841 --> 00:03:59.720 genomic data with covid that's changed.
NOTE Confidence: 0.8653239

00:03:59.720 --> 00:04:01.498 How can we really accelerate our access
NOTE Confidence: 0.8653239

00:04:01.498 --> 00:04:03.690 to real time datasets and moving forward?
NOTE Confidence: 0.8653239

00:04:03.690 --> 00:04:06.122 We really need to be able to scale
NOTE Confidence: 0.8653239

00:04:06.122 --> 00:04:07.769 that independently as new use cases.
NOTE Confidence: 0.8653239

00:04:07.770 --> 00:04:09.630 And new datasets come online within
NOTE Confidence: 0.8653239

00:04:09.630 --> 00:04:11.736 the health system from a data
NOTE Confidence: 0.8653239

00:04:11.736 --> 00:04:12.540 management perspective,
NOTE Confidence: 0.8653239

00:04:12.540 --> 00:04:14.927 we really have this need to again,
NOTE Confidence: 0.8653239

00:04:14.930 --> 00:04:16.976 not only capture E HR data,
NOTE Confidence: 0.8653239

00:04:16.980 --> 00:04:19.367 but how can we get data from

NOTE Confidence: 0.8653239
00:04:19.367 --> 00:04:20.390 different multimodal datasets,
NOTE Confidence: 0.8653239
00:04:20.390 --> 00:04:21.750 including our clinical imaging
NOTE Confidence: 0.8653239
00:04:21.750 --> 00:04:22.770 datasets and genetics,
NOTE Confidence: 0.8653239
00:04:22.770 --> 00:04:25.082 and get that into a data model that
NOTE Confidence: 0.8653239
00:04:25.082 --> 00:04:27.291 can really be understood by analysts
NOTE Confidence: 0.8653239
00:04:27.291 --> 00:04:29.246 with a variety of backgrounds.
NOTE Confidence: 0.8653239
00:04:29.250 --> 00:04:31.706 For those of you who are a little
NOTE Confidence: 0.8653239
00:04:31.706 --> 00:04:33.885 more familiar with our data models
NOTE Confidence: 0.8653239
00:04:33.885 --> 00:04:35.385 within the health system,
NOTE Confidence: 0.8653239
00:04:35.390 --> 00:04:37.145 our main data repository or
NOTE Confidence: 0.8653239
00:04:37.145 --> 00:04:38.198 data warehouse is.
NOTE Confidence: 0.8653239
00:04:38.200 --> 00:04:39.428 Clarity that has somewhere
NOTE Confidence: 0.8653239
00:04:39.428 --> 00:04:40.349 around 22,000 tables.
NOTE Confidence: 0.8653239
00:04:40.350 --> 00:04:42.430 It takes a lot of time and experience
NOTE Confidence: 0.8653239
00:04:42.430 --> 00:04:44.339 to really become comfortable with.
NOTE Confidence: 0.8653239

00:04:44.340 --> 00:04:46.258 How do you even extract data from
NOTE Confidence: 0.8653239

00:04:46.258 --> 00:04:48.092 that database and what we're moving
NOTE Confidence: 0.8653239

00:04:48.092 --> 00:04:49.994 into our some more simplified data
NOTE Confidence: 0.8653239

00:04:49.994 --> 00:04:51.957 models that align with many national
NOTE Confidence: 0.8653239

00:04:51.957 --> 00:04:53.856 initiatives to make that much lower
NOTE Confidence: 0.8653239

00:04:53.856 --> 00:04:55.386 barrier and burden for investigators.
NOTE Confidence: 0.8653239

00:04:55.390 --> 00:04:57.540 With some of these clinical
NOTE Confidence: 0.8653239

00:04:57.540 --> 00:04:58.830 common data models.
NOTE Confidence: 0.8653239

00:04:58.830 --> 00:05:00.524 And then finally making sure that again
NOTE Confidence: 0.8653239

00:05:00.524 --> 00:05:02.582 we have that analysis capacity to one
NOTE Confidence: 0.8653239

00:05:02.582 --> 00:05:04.508 support the the hardware and infrastructure,
NOTE Confidence: 0.8653239

00:05:04.510 --> 00:05:07.230 but also the tools and libraries on top
NOTE Confidence: 0.8653239

00:05:07.230 --> 00:05:10.637 of it that individuals might need to use.
NOTE Confidence: 0.8653239

00:05:10.640 --> 00:05:12.368 The data sources that we acquire
NOTE Confidence: 0.8653239

00:05:12.368 --> 00:05:13.520 from are quite diverse,
NOTE Confidence: 0.8653239

00:05:13.520 --> 00:05:15.816 so we do get data from the HR.

NOTE Confidence: 0.8653239
00:05:15.820 --> 00:05:17.548 Some of that directly from the
NOTE Confidence: 0.8653239
00:05:17.548 --> 00:05:18.412 main HR database,
NOTE Confidence: 0.8653239
00:05:18.420 --> 00:05:20.214 as well as the data warehouses
NOTE Confidence: 0.8653239
00:05:20.214 --> 00:05:22.447 that are on the back end of it.
NOTE Confidence: 0.8653239
00:05:22.450 --> 00:05:23.910 Digital pathology is something that
NOTE Confidence: 0.8653239
00:05:23.910 --> 00:05:25.982 we are looking forward to as we
NOTE Confidence: 0.8653239
00:05:25.982 --> 00:05:27.372 bring that hopefully online within
NOTE Confidence: 0.8653239
00:05:27.372 --> 00:05:28.824 the health system digital image
NOTE Confidence: 0.8653239
00:05:28.824 --> 00:05:30.522 and we are fully integrated with
NOTE Confidence: 0.8653239
00:05:30.522 --> 00:05:31.951 our clinical imaging platform so
NOTE Confidence: 0.8653239
00:05:31.951 --> 00:05:33.673 we can acquire chest X Rays.
NOTE Confidence: 0.8653239
00:05:33.680 --> 00:05:34.170 CT scans,
NOTE Confidence: 0.8653239
00:05:34.170 --> 00:05:36.130 Mrs and so on and then are physiologic
NOTE Confidence: 0.8653239
00:05:36.188 --> 00:05:38.253 monitoring data which come from all of
NOTE Confidence: 0.8653239
00:05:38.253 --> 00:05:40.298 our attached sensors across the enterprise,
NOTE Confidence: 0.8653239

00:05:40.300 --> 00:05:40.968 so are.
NOTE Confidence: 0.8653239

00:05:40.968 --> 00:05:41.970 EKG's pulse oximetry.
NOTE Confidence: 0.8653239

00:05:41.970 --> 00:05:43.914 All of that streams in real
NOTE Confidence: 0.8653239

00:05:43.914 --> 00:05:45.789 time into this platform as well.
NOTE Confidence: 0.8653239

00:05:45.790 --> 00:05:46.774 Genetics and molecular.
NOTE Confidence: 0.8653239

00:05:46.774 --> 00:05:48.414 We've been acquiring for some
NOTE Confidence: 0.8653239

00:05:48.414 --> 00:05:50.240 time now on the semantic side,
NOTE Confidence: 0.8653239

00:05:50.240 --> 00:05:52.196 so for oncology for both our
NOTE Confidence: 0.8653239

00:05:52.196 --> 00:05:53.500 hematologic malignancy and solid
NOTE Confidence: 0.81305254

00:05:53.563 --> 00:05:55.489 tumor panels and with the generations
NOTE Confidence: 0.81305254

00:05:55.489 --> 00:05:57.714 project with both Mike and now having
NOTE Confidence: 0.81305254

00:05:57.714 --> 00:05:59.478 our onboard starting to move in
NOTE Confidence: 0.81305254

00:05:59.478 --> 00:06:01.156 germline sequencing results as well.
NOTE Confidence: 0.81305254

00:06:01.156 --> 00:06:02.876 Digital and Home Health is
NOTE Confidence: 0.81305254

00:06:02.876 --> 00:06:04.708 something that is again need a
NOTE Confidence: 0.81305254

00:06:04.708 --> 00:06:06.133 little bit more forward looking.

NOTE Confidence: 0.81305254

00:06:06.140 --> 00:06:08.415 We do have some ways of acquiring

NOTE Confidence: 0.81305254

00:06:08.415 --> 00:06:10.781 that within the EHR and are continuing

NOTE Confidence: 0.81305254

00:06:10.781 --> 00:06:13.293 to look at how we integrate and

NOTE Confidence: 0.81305254

00:06:13.293 --> 00:06:15.558 expand those datasets moving forward.

NOTE Confidence: 0.81305254

00:06:15.560 --> 00:06:17.432 For people who haven't heard it

NOTE Confidence: 0.81305254

00:06:17.432 --> 00:06:18.680 talk about the computational

NOTE Confidence: 0.81305254

00:06:18.740 --> 00:06:20.200 health platform in the past,

NOTE Confidence: 0.81305254

00:06:20.200 --> 00:06:22.664 this might be a figure that you've seen.

NOTE Confidence: 0.81305254

00:06:22.670 --> 00:06:24.270 Really, what this is demonstrating

NOTE Confidence: 0.81305254

00:06:24.270 --> 00:06:25.870 is the different layers that

NOTE Confidence: 0.81305254

00:06:25.929 --> 00:06:27.609 we've really put into the system.

NOTE Confidence: 0.81305254

00:06:27.610 --> 00:06:30.074 On the bottom are data ingestion and storage,

NOTE Confidence: 0.81305254

00:06:30.080 --> 00:06:32.229 which we are now migrating to our

NOTE Confidence: 0.81305254

00:06:32.229 --> 00:06:34.362 newest version to allow us a little

NOTE Confidence: 0.81305254

00:06:34.362 --> 00:06:36.479 bit more elasticity as well as more

NOTE Confidence: 0.81305254

00:06:36.479 --> 00:06:38.712 efficiency and how we can scale and
NOTE Confidence: 0.81305254

00:06:38.712 --> 00:06:40.590 acquire both storage and compute resources.
NOTE Confidence: 0.81305254

00:06:40.590 --> 00:06:42.164 Key to this, you know,
NOTE Confidence: 0.81305254

00:06:42.164 --> 00:06:43.774 really working those for investigators
NOTE Confidence: 0.81305254

00:06:43.774 --> 00:06:46.063 is how we integrate those data and
NOTE Confidence: 0.81305254

00:06:46.063 --> 00:06:48.190 can layer different tools on top of.
NOTE Confidence: 0.81305254

00:06:48.190 --> 00:06:50.406 The platform that we are building one of
NOTE Confidence: 0.81305254

00:06:50.406 --> 00:06:52.948 those is a so much comap common data model,
NOTE Confidence: 0.81305254

00:06:52.950 --> 00:06:54.546 which I'll talk about a little
NOTE Confidence: 0.81305254

00:06:54.546 --> 00:06:56.309 bit more on the next slide,
NOTE Confidence: 0.81305254

00:06:56.310 --> 00:06:58.095 as well as some tooling that we're
NOTE Confidence: 0.81305254

00:06:58.095 --> 00:07:00.212 starting to build to be able to more
NOTE Confidence: 0.81305254

00:07:00.212 --> 00:07:01.892 efficiently extract data and build what
NOTE Confidence: 0.81305254

00:07:01.892 --> 00:07:03.866 we call computed or computable phenotypes.
NOTE Confidence: 0.81305254

00:07:03.870 --> 00:07:05.466 So one challenge with real world
NOTE Confidence: 0.81305254

00:07:05.466 --> 00:07:07.741 and EHR data is how do we even

NOTE Confidence: 0.81305254

00:07:07.741 --> 00:07:09.186 identify patients to begin with?

NOTE Confidence: 0.81305254

00:07:09.190 --> 00:07:10.702 Often this is done in research

NOTE Confidence: 0.81305254

00:07:10.702 --> 00:07:12.549 studies based off of diagnostic code,

NOTE Confidence: 0.81305254

00:07:12.550 --> 00:07:14.209 but research by our group and others

NOTE Confidence: 0.81305254

00:07:14.209 --> 00:07:16.127 you know it has really shown that

NOTE Confidence: 0.81305254

00:07:16.127 --> 00:07:17.562 diagnostic codes alone are often

NOTE Confidence: 0.81305254

00:07:17.562 --> 00:07:19.387 not sufficient to really identify.

NOTE Confidence: 0.81305254

00:07:19.390 --> 00:07:22.006 The breadth and complexity of clinical

NOTE Confidence: 0.81305254

00:07:22.006 --> 00:07:24.120 diagnosis within the electronic health

NOTE Confidence: 0.81305254

00:07:24.120 --> 00:07:26.560 record and I can give the use case

NOTE Confidence: 0.81305254

00:07:26.560 --> 00:07:29.043 example on covid for that in a little bit.

NOTE Confidence: 0.81305254

00:07:29.050 --> 00:07:31.346 We are also layering on from software to

NOTE Confidence: 0.81305254

00:07:31.346 --> 00:07:33.871 try to integrate some of our biobanking

NOTE Confidence: 0.81305254

00:07:33.871 --> 00:07:36.177 capacity both from a physical and

NOTE Confidence: 0.81305254

00:07:36.177 --> 00:07:37.917 infrastructure capacity as well as

NOTE Confidence: 0.81305254

00:07:37.917 --> 00:07:39.992 from a tooling and informatics capacity.

NOTE Confidence: 0.81305254

00:07:39.992 --> 00:07:41.356 On top of that,

NOTE Confidence: 0.81305254

00:07:41.360 --> 00:07:44.318 use leveraging tool called Freezer Works.

NOTE Confidence: 0.81305254

00:07:44.320 --> 00:07:46.091 We are also building in some additional

NOTE Confidence: 0.81305254

00:07:46.091 --> 00:07:47.900 entry points using different applications.

NOTE Confidence: 0.81305254

00:07:47.900 --> 00:07:48.776 C bio portal,

NOTE Confidence: 0.81305254

00:07:48.776 --> 00:07:50.820 which I'll speak about a little bit

NOTE Confidence: 0.81305254

00:07:50.880 --> 00:07:52.928 as well as some API based access to

NOTE Confidence: 0.81305254

00:07:52.928 --> 00:07:55.167 be able to get slightly more direct

NOTE Confidence: 0.81305254

00:07:55.167 --> 00:07:57.616 access to data through tools such as

NOTE Confidence: 0.81305254

00:07:57.616 --> 00:07:59.944 R and Python for investigators and

NOTE Confidence: 0.81305254

00:07:59.944 --> 00:08:02.200 researchers who have that experience.

NOTE Confidence: 0.81305254

00:08:02.200 --> 00:08:02.812 So sorry,

NOTE Confidence: 0.81305254

00:08:02.812 --> 00:08:04.954 but you know talked about on a

NOTE Confidence: 0.81305254

00:08:04.954 --> 00:08:06.368 couple of these slides.

NOTE Confidence: 0.81305254

00:08:06.370 --> 00:08:09.034 OMAP is the common data model that we

NOTE Confidence: 0.81305254

00:08:09.034 --> 00:08:11.374 really leverage to try to push forward

NOTE Confidence: 0.81305254

00:08:11.374 --> 00:08:13.632 a more accessible data model for our

NOTE Confidence: 0.81305254

00:08:13.632 --> 00:08:15.697 clinical an EHR data OMAP is managed

NOTE Confidence: 0.81305254

00:08:15.697 --> 00:08:17.610 by an organization called the Odyssey.

NOTE Confidence: 0.81305254

00:08:17.610 --> 00:08:18.306 The observation,

NOTE Confidence: 0.81305254

00:08:18.306 --> 00:08:19.002 ULL health,

NOTE Confidence: 0.81305254

00:08:19.002 --> 00:08:20.742 data Sciences and informatics organization

NOTE Confidence: 0.81305254

00:08:20.742 --> 00:08:22.421 and what the script really formed

NOTE Confidence: 0.81305254

00:08:22.421 --> 00:08:24.447 as several years ago with a private

NOTE Confidence: 0.81305254

00:08:24.447 --> 00:08:26.187 public partnership between the number

NOTE Confidence: 0.81305254

00:08:26.187 --> 00:08:27.561 of different pharmaceutical companies

NOTE Confidence: 0.81305254

00:08:27.561 --> 00:08:29.487 as well as some academic partners,

NOTE Confidence: 0.81305254

00:08:29.490 --> 00:08:31.305 this is now primarily led

NOTE Confidence: 0.81305254

00:08:31.305 --> 00:08:32.394 by Columbia University.

NOTE Confidence: 0.84208035

00:08:32.400 --> 00:08:34.731 But forms and more really simplified data

NOTE Confidence: 0.84208035

00:08:34.731 --> 00:08:37.250 model to access the clinical information.

NOTE Confidence: 0.84208035

00:08:37.250 --> 00:08:40.022 So rather than having the 22,000 tables

NOTE Confidence: 0.84208035

00:08:40.022 --> 00:08:42.298 of clarity simplifies a majority of

NOTE Confidence: 0.84208035

00:08:42.298 --> 00:08:44.326 clinical data down into about 12:00

NOTE Confidence: 0.84208035

00:08:44.326 --> 00:08:46.582 or so clinical domains all centered

NOTE Confidence: 0.84208035

00:08:46.582 --> 00:08:48.810 around the person or the individual.

NOTE Confidence: 0.84208035

00:08:48.810 --> 00:08:51.030 So the person table maintains the

NOTE Confidence: 0.84208035

00:08:51.030 --> 00:08:52.934 demographics and then around that

NOTE Confidence: 0.84208035

00:08:52.934 --> 00:08:54.478 we have observations, providers,

NOTE Confidence: 0.84208035

00:08:54.478 --> 00:08:55.822 cohorts, drugs, observations,

NOTE Confidence: 0.84208035

00:08:55.822 --> 00:08:58.062 measurements and by linking those

NOTE Confidence: 0.84208035

00:08:58.062 --> 00:09:00.593 we can much more rapidly on board

NOTE Confidence: 0.84208035

00:09:00.593 --> 00:09:02.363 analysts and researchers to really

NOTE Confidence: 0.84208035

00:09:02.363 --> 00:09:04.505 work with these real world datasets.

NOTE Confidence: 0.84208035

00:09:04.510 --> 00:09:06.238 In addition to this more simplified

NOTE Confidence: 0.84208035

00:09:06.238 --> 00:09:07.770 aspect of the data model,

NOTE Confidence: 0.84208035

00:09:07.770 --> 00:09:09.730 this is the same data model that's being

NOTE Confidence: 0.84208035

00:09:09.730 --> 00:09:11.608 used by many genomics initiatives,

NOTE Confidence: 0.84208035

00:09:11.610 --> 00:09:12.775 including emerged the UK Biobank

NOTE Confidence: 0.84208035

00:09:12.775 --> 00:09:14.703 in the all of US initiative and

NOTE Confidence: 0.84208035

00:09:14.703 --> 00:09:16.468 then more recently the National

NOTE Confidence: 0.84208035

00:09:16.468 --> 00:09:17.527 Covid Cohort Collaborative.

NOTE Confidence: 0.84208035

00:09:17.530 --> 00:09:18.418 Because of this,

NOTE Confidence: 0.84208035

00:09:18.418 --> 00:09:20.194 individuals who learn the data model

NOTE Confidence: 0.84208035

00:09:20.194 --> 00:09:21.943 for any of those initiatives will

NOTE Confidence: 0.84208035

00:09:21.943 --> 00:09:23.704 already know some of the intricacies

NOTE Confidence: 0.84208035

00:09:23.704 --> 00:09:25.528 of working with our EHR data.

NOTE Confidence: 0.84208035

00:09:25.530 --> 00:09:27.300 How do you find an encounter?

NOTE Confidence: 0.84208035

00:09:27.300 --> 00:09:29.365 How do you find a pulse rate?

NOTE Confidence: 0.84208035

00:09:29.370 --> 00:09:31.449 How do you find a creatinine value?

NOTE Confidence: 0.84208035

00:09:31.450 --> 00:09:33.562 All of that is a transferable skill skill

NOTE Confidence: 0.84208035

00:09:33.562 --> 00:09:35.587 between all of those different databases.
NOTE Confidence: 0.84425914

00:09:37.770 --> 00:09:39.884 And now we did, you know, really,
NOTE Confidence: 0.84425914

00:09:39.884 --> 00:09:41.648 start to build this computational health
NOTE Confidence: 0.84425914

00:09:41.648 --> 00:09:43.549 platform with a focus on generations.
NOTE Confidence: 0.84425914

00:09:43.550 --> 00:09:45.266 When we started what we've shifted
NOTE Confidence: 0.84425914

00:09:45.266 --> 00:09:47.390 to over the last year is really
NOTE Confidence: 0.84425914

00:09:47.390 --> 00:09:48.622 supporting covid analytics and
NOTE Confidence: 0.84425914

00:09:48.622 --> 00:09:50.838 we had to do this quite rapidly.
NOTE Confidence: 0.84425914

00:09:50.840 --> 00:09:52.700 This has been a tremendous collaboration
NOTE Confidence: 0.84425914

00:09:52.700 --> 00:09:54.788 between the number of groups you know,
NOTE Confidence: 0.84425914

00:09:54.790 --> 00:09:56.918 especially our joint data and analytics team,
NOTE Confidence: 0.84425914

00:09:56.920 --> 00:09:58.440 which Charlie Tori also leads,
NOTE Confidence: 0.84425914

00:09:58.440 --> 00:10:00.673 and being able to integrate this with
NOTE Confidence: 0.84425914

00:10:00.673 --> 00:10:02.327 our other clinical and operational
NOTE Confidence: 0.84425914

00:10:02.327 --> 00:10:04.560 data assets has really allowed us to
NOTE Confidence: 0.84425914

00:10:04.560 --> 00:10:06.772 one drive how we can acquire data in

NOTE Confidence: 0.84425914

00:10:06.772 --> 00:10:08.416 real time for operational planning.

NOTE Confidence: 0.84425914

00:10:08.416 --> 00:10:10.984 But to build out really integrated

NOTE Confidence: 0.84425914

00:10:10.984 --> 00:10:13.017 research platforms that can go from

NOTE Confidence: 0.84425914

00:10:13.017 --> 00:10:14.691 bench to bedside and back again,

NOTE Confidence: 0.84425914

00:10:14.700 --> 00:10:16.405 one of these integrated informatics

NOTE Confidence: 0.84425914

00:10:16.405 --> 00:10:18.455 pipelines that we've used as help

NOTE Confidence: 0.84425914

00:10:18.455 --> 00:10:20.471 drive research with a lot of our

NOTE Confidence: 0.84425914

00:10:20.471 --> 00:10:21.932 fantastic immuno biologist across

NOTE Confidence: 0.84425914

00:10:21.932 --> 00:10:23.563 the organization Icoi, Wisocky,

NOTE Confidence: 0.84425914

00:10:23.563 --> 00:10:24.712 Ehrenring and others.

NOTE Confidence: 0.84425914

00:10:24.712 --> 00:10:27.387 The way that we've implemented this is

NOTE Confidence: 0.84425914

00:10:27.387 --> 00:10:29.578 really by using chip to help monitor

NOTE Confidence: 0.84425914

00:10:29.578 --> 00:10:31.502 our real-world data feeds for COVID-19

NOTE Confidence: 0.84425914

00:10:31.502 --> 00:10:33.645 testing as well As for visits across

NOTE Confidence: 0.84425914

00:10:33.645 --> 00:10:35.415 the health system to potentially to

NOTE Confidence: 0.84425914

00:10:35.415 --> 00:10:37.244 or rather to identify potentially
NOTE Confidence: 0.84425914

00:10:37.244 --> 00:10:39.464 eligible patients in clinical trials.
NOTE Confidence: 0.84425914

00:10:39.470 --> 00:10:41.426 And then integrate that with tools
NOTE Confidence: 0.84425914

00:10:41.426 --> 00:10:44.145 like Red Cap where we can do more
NOTE Confidence: 0.84425914

00:10:44.145 --> 00:10:45.497 protocol driven data capture.
NOTE Confidence: 0.84425914

00:10:45.500 --> 00:10:47.348 So what this lets us do is balance
NOTE Confidence: 0.84425914

00:10:47.348 --> 00:10:49.046 out and acquire real-world outcomes
NOTE Confidence: 0.84425914

00:10:49.046 --> 00:10:51.392 from the HR where people hospitalized
NOTE Confidence: 0.84425914

00:10:51.392 --> 00:10:53.390 where they intimated what medications
NOTE Confidence: 0.84425914

00:10:53.390 --> 00:10:54.884 did they receive, receive,
NOTE Confidence: 0.84425914

00:10:54.884 --> 00:10:56.888 and what were the results of
NOTE Confidence: 0.84425914

00:10:56.888 --> 00:10:57.556 laboratory testing.
NOTE Confidence: 0.84425914

00:10:57.560 --> 00:10:59.678 And then if patients are consented
NOTE Confidence: 0.84425914

00:10:59.678 --> 00:11:01.763 with the appropriate IRB's and all
NOTE Confidence: 0.84425914

00:11:01.763 --> 00:11:03.587 of the regulatory pieces in place,
NOTE Confidence: 0.84425914

00:11:03.590 --> 00:11:05.486 we can combine those clinical data

NOTE Confidence: 0.84425914

00:11:05.486 --> 00:11:07.476 with protocol driven data that we

NOTE Confidence: 0.84425914

00:11:07.476 --> 00:11:09.136 acquire through Redcap and provide

NOTE Confidence: 0.84425914

00:11:09.136 --> 00:11:10.720 back integrated data resources.

NOTE Confidence: 0.84425914

00:11:10.720 --> 00:11:11.366 For investigators,

NOTE Confidence: 0.84425914

00:11:11.366 --> 00:11:13.627 we've been pretty successful in terms of

NOTE Confidence: 0.84425914

00:11:13.627 --> 00:11:15.699 being able to advance science with this.

NOTE Confidence: 0.84425914

00:11:15.700 --> 00:11:17.560 Throughout the course of the pandemic.

NOTE Confidence: 0.84425914

00:11:17.560 --> 00:11:17.838 Again,

NOTE Confidence: 0.84425914

00:11:17.838 --> 00:11:19.784 a lot of this fantastic work that's

NOTE Confidence: 0.84425914

00:11:19.784 --> 00:11:21.546 really being driven by our immuno

NOTE Confidence: 0.84425914

00:11:21.546 --> 00:11:22.986 biologist looking at things from

NOTE Confidence: 0.84425914

00:11:22.986 --> 00:11:24.829 the immune response to developing

NOTE Confidence: 0.84425914

00:11:24.829 --> 00:11:25.954 out predictive models.

NOTE Confidence: 0.84425914

00:11:25.960 --> 00:11:27.720 With clinical informatics in our

NOTE Confidence: 0.84425914

00:11:27.720 --> 00:11:29.480 emergency Department and looking at

NOTE Confidence: 0.84425914

00:11:29.534 --> 00:11:31.564 outcomes in our cohort and now changes
NOTE Confidence: 0.84425914

00:11:31.564 --> 00:11:33.727 in mortality over time and the other area,
NOTE Confidence: 0.84425914

00:11:33.730 --> 00:11:36.098 then that I'm just going to hop back
NOTE Confidence: 0.84425914

00:11:36.098 --> 00:11:38.330 to really quickly since we're a little
NOTE Confidence: 0.84425914

00:11:38.330 --> 00:11:41.257 bit short on time is how we've also been.
NOTE Confidence: 0.84425914

00:11:41.260 --> 00:11:43.264 Leveraging Chip to advance genomic research
NOTE Confidence: 0.84425914

00:11:43.264 --> 00:11:45.040 primarily focused around Cymatic mutation.
NOTE Confidence: 0.84425914

00:11:45.040 --> 00:11:45.714 To date,
NOTE Confidence: 0.84425914

00:11:45.714 --> 00:11:48.073 hematology is really one of the first
NOTE Confidence: 0.84425914

00:11:48.073 --> 00:11:50.546 areas that we're working on this with.
NOTE Confidence: 0.84425914

00:11:50.550 --> 00:11:52.265 With Stephanie Haleine and others
NOTE Confidence: 0.84425914

00:11:52.265 --> 00:11:53.294 in our hematology,
NOTE Confidence: 0.84425914

00:11:53.300 --> 00:11:55.604 and he he monk groups and what we use
NOTE Confidence: 0.84425914

00:11:55.604 --> 00:11:57.390 chip for the computational Hellpop
NOTE Confidence: 0.84425914

00:11:57.390 --> 00:11:59.586 platform is to build out these
NOTE Confidence: 0.84425914

00:11:59.651 --> 00:12:01.235 analysis pipelines and integrate

NOTE Confidence: 0.84425914

00:12:01.235 --> 00:12:03.611 data from all of these different

NOTE Confidence: 0.84425914

00:12:03.620 --> 00:12:06.264 clinical sources so the EHR, the LIS,

NOTE Confidence: 0.84425914

00:12:06.264 --> 00:12:08.574 the imaging system and others.

NOTE Confidence: 0.84425914

00:12:08.580 --> 00:12:10.452 We can then also integrate our

NOTE Confidence: 0.84425914

00:12:10.452 --> 00:12:12.413 biospecimen data so we can actually

NOTE Confidence: 0.84425914

00:12:12.413 --> 00:12:14.357 track our populations in real time

NOTE Confidence: 0.84425914

00:12:14.357 --> 00:12:16.673 and for patients who have consented

NOTE Confidence: 0.84425914

00:12:16.673 --> 00:12:18.678 or for excess specimens acquire

NOTE Confidence: 0.84425914

00:12:18.678 --> 00:12:20.118 clinical specimens through the

NOTE Confidence: 0.84425914

00:12:20.118 --> 00:12:21.848 clinical laboratory and then integrate

NOTE Confidence: 0.84425914

00:12:21.848 --> 00:12:23.280 those with freezer works.

NOTE Confidence: 0.82425916

00:12:23.280 --> 00:12:26.250 Our BIOSPECIMEN data management software.

NOTE Confidence: 0.82425916

00:12:26.250 --> 00:12:27.410 From our sequencing laboratories.

NOTE Confidence: 0.82425916

00:12:27.410 --> 00:12:29.562 So right now that's primarily our molecular

NOTE Confidence: 0.82425916

00:12:29.562 --> 00:12:31.367 diagnostics laboratory and lab medicine,

NOTE Confidence: 0.82425916

00:12:31.370 --> 00:12:33.610 but also with YCGA&R tumor profiling groups.

NOTE Confidence: 0.82425916

00:12:33.610 --> 00:12:36.090 We can integrate our genomic data as well

NOTE Confidence: 0.82425916

00:12:36.090 --> 00:12:38.406 as registry data from Redcap and others,

NOTE Confidence: 0.82425916

00:12:38.410 --> 00:12:40.720 and push those back to different data

NOTE Confidence: 0.82425916

00:12:40.720 --> 00:12:42.832 analysis tools so it believes Doctor

NOTE Confidence: 0.82425916

00:12:42.832 --> 00:12:44.956 Murray was mentioning a little bit

NOTE Confidence: 0.82425916

00:12:44.956 --> 00:12:47.218 about Nomad is one of the options that

NOTE Confidence: 0.82425916

00:12:47.218 --> 00:12:49.226 we have and are working to deploy

NOTE Confidence: 0.82425916

00:12:49.226 --> 00:12:51.050 or others are working to deploy

NOTE Confidence: 0.82425916

00:12:51.117 --> 00:12:53.127 for germ line for tumor sequencing.

NOTE Confidence: 0.82425916

00:12:53.130 --> 00:12:55.342 We're really looking at C bio portal

NOTE Confidence: 0.82425916

00:12:55.342 --> 00:12:58.255 as being one of the entry points for

NOTE Confidence: 0.82425916

00:12:58.255 --> 00:13:00.155 investigators to access these data.

NOTE Confidence: 0.82425916

00:13:00.160 --> 00:13:02.428 C bio portal is actually open source

NOTE Confidence: 0.82425916

00:13:02.428 --> 00:13:04.486 software that was developed at Memorial

NOTE Confidence: 0.82425916

00:13:04.486 --> 00:13:06.880 Sloan Kettering as well as a couple

NOTE Confidence: 0.82425916
00:13:06.940 --> 00:13:08.800 of different consulting groups,
NOTE Confidence: 0.82425916
00:13:08.800 --> 00:13:10.244 but provides the investigator
NOTE Confidence: 0.82425916
00:13:10.244 --> 00:13:12.410 driven ability to have really used
NOTE Confidence: 0.82425916
00:13:12.467 --> 00:13:14.679 user interface to start to look at
NOTE Confidence: 0.82425916
00:13:14.679 --> 00:13:16.360 outcomes across these populations.
NOTE Confidence: 0.82425916
00:13:16.360 --> 00:13:18.160 So using our computable phenotypes,
NOTE Confidence: 0.82425916
00:13:18.160 --> 00:13:20.320 we can identify patients with AML,
NOTE Confidence: 0.82425916
00:13:20.320 --> 00:13:20.948 AML, CML,
NOTE Confidence: 0.82425916
00:13:20.948 --> 00:13:22.518 integrate the genomic data that
NOTE Confidence: 0.82425916
00:13:22.518 --> 00:13:24.640 we've done for clinical sequencing,
NOTE Confidence: 0.82425916
00:13:24.640 --> 00:13:26.754 and provide this back in these drivable
NOTE Confidence: 0.82425916
00:13:26.754 --> 00:13:28.135 interfaces to start investigation
NOTE Confidence: 0.82425916
00:13:28.135 --> 00:13:30.255 and hypothesis testing while still
NOTE Confidence: 0.82425916
00:13:30.255 --> 00:13:31.951 providing more advanced analytics.
NOTE Confidence: 0.82425916
00:13:31.960 --> 00:13:34.005 And integration capacity through data
NOTE Confidence: 0.82425916

00:13:34.005 --> 00:13:36.536 driven API's to extract the underlying
NOTE Confidence: 0.82425916

00:13:36.536 --> 00:13:39.504 genomic data for investigators who need it.
NOTE Confidence: 0.82425916

00:13:39.510 --> 00:13:41.449 As we move forward and continue to
NOTE Confidence: 0.82425916

00:13:41.449 --> 00:13:43.289 expand our work with generations,
NOTE Confidence: 0.82425916

00:13:43.290 --> 00:13:45.794 just the one area I wanted to highlight
NOTE Confidence: 0.82425916

00:13:45.794 --> 00:13:48.328 which might get talked about a little bit.
NOTE Confidence: 0.82425916

00:13:48.330 --> 00:13:50.090 Is the pharmacogenetic genetics
NOTE Confidence: 0.82425916

00:13:50.090 --> 00:13:51.850 aspect of this program.
NOTE Confidence: 0.82425916

00:13:51.850 --> 00:13:53.518 For this which is really being
NOTE Confidence: 0.82425916

00:13:53.518 --> 00:13:55.170 led by Rebecca Vulcan Pharmacy,
NOTE Confidence: 0.82425916

00:13:55.170 --> 00:13:57.002 is that we've got an EHR order that
NOTE Confidence: 0.82425916

00:13:57.002 --> 00:13:59.401 we can use to order pharmaco genomic
NOTE Confidence: 0.82425916

00:13:59.401 --> 00:14:00.905 testing directly on individuals.
NOTE Confidence: 0.82425916

00:14:00.910 --> 00:14:03.854 Or we can get it as part of
NOTE Confidence: 0.82425916

00:14:03.854 --> 00:14:05.200 the generations panel.
NOTE Confidence: 0.82425916

00:14:05.200 --> 00:14:06.850 Once the specimens are obtained,

NOTE Confidence: 0.82425916

00:14:06.850 --> 00:14:09.490 those specimens go to why CGA for sequencing.

NOTE Confidence: 0.8389803

00:14:12.070 --> 00:14:14.149 Within the EHR, we've got a third

NOTE Confidence: 0.8389803

00:14:14.149 --> 00:14:16.536 party vendor called Act X that can

NOTE Confidence: 0.8389803

00:14:16.536 --> 00:14:17.968 provide integrated decision support.

NOTE Confidence: 0.8389803

00:14:17.970 --> 00:14:20.266 So at the time of medication order,

NOTE Confidence: 0.8389803

00:14:20.270 --> 00:14:22.886 if we enter in order into the EHR,

NOTE Confidence: 0.8389803

00:14:22.890 --> 00:14:24.836 we can actually provide back in real

NOTE Confidence: 0.8389803

00:14:24.836 --> 00:14:26.872 time a BPA that provides individuals

NOTE Confidence: 0.8389803

00:14:26.872 --> 00:14:29.146 with some feedback of whether a

NOTE Confidence: 0.8389803

00:14:29.146 --> 00:14:31.158 person has a genetic interaction with

NOTE Confidence: 0.8389803

00:14:31.158 --> 00:14:33.069 the drug that is being prescribed.

NOTE Confidence: 0.8389803

00:14:33.069 --> 00:14:35.781 And this is for the handful of drugs

NOTE Confidence: 0.8389803

00:14:35.781 --> 00:14:37.975 that we have on that panel today.

NOTE Confidence: 0.8389803

00:14:37.980 --> 00:14:40.086 How we're leveraging Chip and the

NOTE Confidence: 0.8389803

00:14:40.086 --> 00:14:41.139 computational health platform.

NOTE Confidence: 0.8389803

00:14:41.140 --> 00:14:43.975 Is that once why SGA is done with sequencing?

NOTE Confidence: 0.8389803

00:14:43.980 --> 00:14:45.560 We pulled those genetic variants

NOTE Confidence: 0.8389803

00:14:45.560 --> 00:14:47.140 across and integrate that within

NOTE Confidence: 0.8389803

00:14:47.195 --> 00:14:49.121 the Actex database so that those

NOTE Confidence: 0.8389803

00:14:49.121 --> 00:14:50.756 pharmaco genomic interactions can be

NOTE Confidence: 0.8389803

00:14:50.756 --> 00:14:51.944 immediately available to providers

NOTE Confidence: 0.8389803

00:14:51.944 --> 00:14:53.730 while also on the other side,

NOTE Confidence: 0.8389803

00:14:53.730 --> 00:14:55.230 providing researchers with access to

NOTE Confidence: 0.8389803

00:14:55.230 --> 00:14:56.890 not only those clinical variants,

NOTE Confidence: 0.8389803

00:14:56.890 --> 00:14:58.798 but also every other variant that

NOTE Confidence: 0.8389803

00:14:58.798 --> 00:15:00.670 we have available on the chip.

NOTE Confidence: 0.8389803

00:15:00.670 --> 00:15:02.784 So this provides us with the very

NOTE Confidence: 0.8389803

00:15:02.784 --> 00:15:04.746 rich environment to be able to

NOTE Confidence: 0.8389803

00:15:04.746 --> 00:15:06.401 capture data integrated and really

NOTE Confidence: 0.8389803

00:15:06.401 --> 00:15:08.547 provide real time feedback to the EHR,

NOTE Confidence: 0.8389803

00:15:08.550 --> 00:15:12.378 not just in a research capacity.

NOTE Confidence: 0.8389803
00:15:12.380 --> 00:15:13.274 So in summary,
NOTE Confidence: 0.8389803
00:15:13.274 --> 00:15:15.062 you know Chip is really focused
NOTE Confidence: 0.8389803
00:15:15.062 --> 00:15:17.856 on how can we link all of these
NOTE Confidence: 0.8389803
00:15:17.856 --> 00:15:18.897 different datasets together,
NOTE Confidence: 0.8389803
00:15:18.900 --> 00:15:20.755 but with that ultimate goal of really
NOTE Confidence: 0.8389803
00:15:20.755 --> 00:15:22.816 enabling the next generation of healthcare
NOTE Confidence: 0.8389803
00:15:22.816 --> 00:15:24.440 analytics and integrated insights,
NOTE Confidence: 0.8389803
00:15:24.440 --> 00:15:26.396 we're trying to move this just,
NOTE Confidence: 0.8389803
00:15:26.400 --> 00:15:27.014 you know,
NOTE Confidence: 0.8389803
00:15:27.014 --> 00:15:28.549 beyond thinking about just genomics
NOTE Confidence: 0.8389803
00:15:28.549 --> 00:15:30.845 or just the HR data and really
NOTE Confidence: 0.8389803
00:15:30.845 --> 00:15:32.490 providing this as an integrated
NOTE Confidence: 0.8389803
00:15:32.490 --> 00:15:33.898 repository to advance science,
NOTE Confidence: 0.8389803
00:15:33.900 --> 00:15:35.530 clinical care and clinical operations.
NOTE Confidence: 0.8389803
00:15:35.530 --> 00:15:37.497 Ship has been integral to providing real
NOTE Confidence: 0.8389803

00:15:37.497 --> 00:15:39.650 time data for clinical and operational
NOTE Confidence: 0.8389803

00:15:39.650 --> 00:15:41.318 dashboards related to COVID-19.
NOTE Confidence: 0.8389803

00:15:41.320 --> 00:15:43.156 But now as we're moving more
NOTE Confidence: 0.8389803

00:15:43.156 --> 00:15:44.380 into the chronic phases,
NOTE Confidence: 0.8389803

00:15:44.380 --> 00:15:46.592 as we are starting to recruit people
NOTE Confidence: 0.8389803

00:15:46.592 --> 00:15:48.171 back into generations and opening
NOTE Confidence: 0.8389803

00:15:48.171 --> 00:15:49.887 up more of our research again,
NOTE Confidence: 0.8389803

00:15:49.890 --> 00:15:51.633 we do have our ongoing plans to
NOTE Confidence: 0.8389803

00:15:51.633 --> 00:15:53.146 continue to integrate these molecular
NOTE Confidence: 0.8389803

00:15:53.146 --> 00:15:54.931 data with clinical outcomes in
NOTE Confidence: 0.8389803

00:15:54.931 --> 00:15:56.002 some targeted collaborations,
NOTE Confidence: 0.8389803

00:15:56.010 --> 00:15:57.837 and would are also looking to expand
NOTE Confidence: 0.8389803

00:15:57.837 --> 00:15:59.745 that out to several more general
NOTE Confidence: 0.8389803

00:15:59.745 --> 00:16:01.515 populations as we move forward.
NOTE Confidence: 0.8389803

00:16:01.520 --> 00:16:02.130 These plans,
NOTE Confidence: 0.8389803

00:16:02.130 --> 00:16:03.350 software deployments including C,

NOTE Confidence: 0.8389803

00:16:03.350 --> 00:16:04.422 Bio Portal no Bad,

NOTE Confidence: 0.8389803

00:16:04.422 --> 00:16:06.030 and others will continue to increase

NOTE Confidence: 0.8389803

00:16:06.084 --> 00:16:07.448 Accessibility to both germline

NOTE Confidence: 0.8389803

00:16:07.448 --> 00:16:09.153 Anthem Attic sequencing data across

NOTE Confidence: 0.8389803

00:16:09.153 --> 00:16:10.794 the organization and with the

NOTE Confidence: 0.8389803

00:16:10.794 --> 00:16:12.038 goal of integrating that.

NOTE Confidence: 0.8389803

00:16:12.040 --> 00:16:13.984 With this oh map data model so that

NOTE Confidence: 0.8389803

00:16:13.984 --> 00:16:15.941 we can also provide clinical outcomes

NOTE Confidence: 0.8389803

00:16:15.941 --> 00:16:18.637 and clinical data to pair with this

NOTE Confidence: 0.8389803

00:16:18.637 --> 00:16:20.197 generated research information,

NOTE Confidence: 0.8389803

00:16:20.200 --> 00:16:21.628 or rather, genomic information.

NOTE Confidence: 0.8389803

00:16:21.628 --> 00:16:24.469 So thank you for the time and if

NOTE Confidence: 0.8389803

00:16:24.469 --> 00:16:26.353 anybody has questions happy to follow

NOTE Confidence: 0.8389803

00:16:26.353 --> 00:16:28.611 up by email afterwards as well.