

WEBVTT

NOTE duration:"00:58:33.3200000"

NOTE recognizability:0.797

NOTE language:en-us

NOTE Confidence: 0.776480074736842

00:00:00.000 --> 00:00:03.288 Doctor Anani who used to be Doctor Isuzu

NOTE Confidence: 0.776480074736842

00:00:03.288 --> 00:00:06.719 but now she has her taken her married

NOTE Confidence: 0.776480074736842

00:00:06.719 --> 00:00:10.392 name and Annie is a good friend and and

NOTE Confidence: 0.776480074736842

00:00:10.392 --> 00:00:13.432 really one of our someone we're so proud

NOTE Confidence: 0.776480074736842

00:00:13.432 --> 00:00:16.808 to have as a trainee and now on faculty.

NOTE Confidence: 0.776480074736842

00:00:16.810 --> 00:00:19.561 Uche went to medical school in her

NOTE Confidence: 0.776480074736842

00:00:19.561 --> 00:00:22.246 native Nigeria, the University of Ibadan,

NOTE Confidence: 0.776480074736842

00:00:22.246 --> 00:00:24.616 and then in the states.

NOTE Confidence: 0.776480074736842

00:00:24.620 --> 00:00:26.756 She's been winding her way up

NOTE Confidence: 0.776480074736842

00:00:26.756 --> 00:00:27.824 the eastern seaboard,

NOTE Confidence: 0.776480074736842

00:00:27.830 --> 00:00:34.634 from Miami to Duke to Johns Hopkins.

NOTE Confidence: 0.776480074736842

00:00:34.640 --> 00:00:36.112 All of them are a bunch of losers

NOTE Confidence: 0.776480074736842

00:00:36.112 --> 00:00:37.416 because she ended up here with us,

NOTE Confidence: 0.776480074736842

00:00:37.420 --> 00:00:38.644 so we're delighted.  
NOTE Confidence: 0.776480074736842

00:00:38.644 --> 00:00:42.406 And Uche has worked with a lot of the  
NOTE Confidence: 0.776480074736842

00:00:42.406 --> 00:00:45.262 people in the Who's who of psychiatry,  
NOTE Confidence: 0.776480074736842

00:00:45.270 --> 00:00:47.076 including I was just looking at  
NOTE Confidence: 0.776480074736842

00:00:47.076 --> 00:00:49.034 her CV again with Doctor Charlie  
NOTE Confidence: 0.776480074736842

00:00:49.034 --> 00:00:51.104 Nemeroff when he was in Miami.  
NOTE Confidence: 0.776480074736842

00:00:51.110 --> 00:00:53.886 And it's just remarkable looking at your CV,  
NOTE Confidence: 0.776480074736842

00:00:53.890 --> 00:00:56.590 which how quickly you've been publishing,  
NOTE Confidence: 0.776480074736842

00:00:56.590 --> 00:00:58.885 getting grants, coming into your  
NOTE Confidence: 0.776480074736842

00:00:58.885 --> 00:01:01.180 own right as an investigator,  
NOTE Confidence: 0.776480074736842

00:01:01.180 --> 00:01:05.095 which is what you're going to show us today.  
NOTE Confidence: 0.776480074736842

00:01:05.100 --> 00:01:07.192 Among her many interests,  
NOTE Confidence: 0.776480074736842

00:01:07.192 --> 00:01:10.330 Uche has done some really important  
NOTE Confidence: 0.776480074736842

00:01:10.415 --> 00:01:13.186 work on race, racism, race relations,  
NOTE Confidence: 0.776480074736842

00:01:13.186 --> 00:01:16.498 including here in our inpatient unit.  
NOTE Confidence: 0.776480074736842

00:01:16.500 --> 00:01:18.866 I was joking that I had the

NOTE Confidence: 0.776480074736842

00:01:18.866 --> 00:01:20.880 privilege of publishing, I think,

NOTE Confidence: 0.776480074736842

00:01:20.880 --> 00:01:22.880 Doctor Isuzus last paper,

NOTE Confidence: 0.776480074736842

00:01:22.880 --> 00:01:25.260 because Doctor Azusa is now Doctor Anani.

NOTE Confidence: 0.776480074736842

00:01:25.260 --> 00:01:27.084 But that paper is really important

NOTE Confidence: 0.776480074736842

00:01:27.084 --> 00:01:29.020 with many of our colleagues,

NOTE Confidence: 0.776480074736842

00:01:29.020 --> 00:01:31.036 including David Rees and Laurie Cardona,

NOTE Confidence: 0.776480074736842

00:01:31.040 --> 00:01:32.640 who's here in Amanda Calhoun,

NOTE Confidence: 0.776480074736842

00:01:32.640 --> 00:01:34.930 a qualitative study about racism.

NOTE Confidence: 0.776480074736842

00:01:34.930 --> 00:01:37.810 Race relations in an inpatient unit,

NOTE Confidence: 0.776480074736842

00:01:37.810 --> 00:01:41.238 a pretty brave type of work

NOTE Confidence: 0.776480074736842

00:01:41.238 --> 00:01:42.786 that is much needed.

NOTE Confidence: 0.776480074736842

00:01:42.790 --> 00:01:46.164 And Uche has moved into the digital

NOTE Confidence: 0.776480074736842

00:01:46.164 --> 00:01:49.606 world in a in in a major way.

NOTE Confidence: 0.776480074736842

00:01:49.610 --> 00:01:52.770 She is now part of a number of

NOTE Confidence: 0.776480074736842

00:01:52.770 --> 00:01:55.231 consortia and grants all together

NOTE Confidence: 0.776480074736842

00:01:55.231 --> 00:01:57.866 with the digital team here.  
NOTE Confidence: 0.776480074736842

00:01:57.870 --> 00:02:00.118 She is now the associate director of the  
NOTE Confidence: 0.776480074736842

00:02:00.118 --> 00:02:02.353 play to Prevent Group that we're going  
NOTE Confidence: 0.776480074736842

00:02:02.353 --> 00:02:05.199 to be hearing about that brings technologies.  
NOTE Confidence: 0.776480074736842

00:02:05.200 --> 00:02:07.520 To clinical needs and  
NOTE Confidence: 0.776480074736842

00:02:07.520 --> 00:02:11.000 using all sorts of G Wiz.  
NOTE Confidence: 0.776480074736842

00:02:11.000 --> 00:02:12.164 You know,  
NOTE Confidence: 0.776480074736842

00:02:12.164 --> 00:02:15.074 toys towards very important purposes.  
NOTE Confidence: 0.776480074736842

00:02:15.080 --> 00:02:17.360 So it's wonderful to be here.  
NOTE Confidence: 0.776480074736842

00:02:17.360 --> 00:02:17.625 Oh,  
NOTE Confidence: 0.776480074736842

00:02:17.625 --> 00:02:19.480 the most important thing is that I  
NOTE Confidence: 0.776480074736842

00:02:19.480 --> 00:02:20.955 understand because I saw the list  
NOTE Confidence: 0.776480074736842

00:02:20.955 --> 00:02:22.293 that her husband is watching you,  
NOTE Confidence: 0.776480074736842

00:02:22.300 --> 00:02:23.980 so you better do a good job.  
NOTE Confidence: 0.776480074736842

00:02:23.980 --> 00:02:25.947 And but the most important thing is  
NOTE Confidence: 0.776480074736842

00:02:25.947 --> 00:02:28.145 that that which is also the proud mom

NOTE Confidence: 0.776480074736842  
00:02:28.145 --> 00:02:30.408 of two beautiful kids who we have been  
NOTE Confidence: 0.776480074736842  
00:02:30.408 --> 00:02:32.754 seeing growing here, Daisy and Damien.  
NOTE Confidence: 0.776480074736842  
00:02:32.754 --> 00:02:35.622 So would you take it away?  
NOTE Confidence: 0.904478185  
00:02:43.630 --> 00:02:46.318 Thank you for that kind introduction.  
NOTE Confidence: 0.06702602  
00:02:48.910 --> 00:02:49.470 Umm.  
NOTE Confidence: 0.691802335  
00:02:53.780 --> 00:02:55.610 Ohh sorry. 2nd.  
NOTE Confidence: 0.678330453333333  
00:03:02.860 --> 00:03:06.075 All right. So I'm excited to talk to  
NOTE Confidence: 0.678330453333333  
00:03:06.075 --> 00:03:08.624 you all about my work investigating  
NOTE Confidence: 0.678330453333333  
00:03:08.624 --> 00:03:11.649 the utility of digital tools,  
NOTE Confidence: 0.678330453333333  
00:03:11.650 --> 00:03:13.080 not only for risk assessment,  
NOTE Confidence: 0.678330453333333  
00:03:13.080 --> 00:03:14.886 which is the focus of this talk,  
NOTE Confidence: 0.678330453333333  
00:03:14.890 --> 00:03:17.538 but also for intervention  
NOTE Confidence: 0.678330453333333  
00:03:17.538 --> 00:03:19.524 development and delivery,  
NOTE Confidence: 0.678330453333333  
00:03:19.530 --> 00:03:22.070 specifically focused on addressing  
NOTE Confidence: 0.678330453333333  
00:03:22.070 --> 00:03:24.610 adults and substance misuse.  
NOTE Confidence: 0.678330453333333

00:03:24.610 --> 00:03:27.130 And all of this really is framed.  
NOTE Confidence: 0.6783304533333333

00:03:27.130 --> 00:03:30.112 Under the umbrella of increasing access to  
NOTE Confidence: 0.6783304533333333

00:03:30.112 --> 00:03:32.540 care, I think a lot about access to care.  
NOTE Confidence: 0.6783304533333333

00:03:32.540 --> 00:03:35.012 I grew up in a country where access  
NOTE Confidence: 0.6783304533333333

00:03:35.012 --> 00:03:37.358 to care was pretty challenging,  
NOTE Confidence: 0.6783304533333333

00:03:37.360 --> 00:03:40.348 and so I thought a lot about it growing  
NOTE Confidence: 0.6783304533333333

00:03:40.348 --> 00:03:43.560 up also as a resident and trainee,  
NOTE Confidence: 0.6783304533333333

00:03:43.560 --> 00:03:47.280 I was also really struck by how delaying  
NOTE Confidence: 0.6783304533333333

00:03:47.280 --> 00:03:51.880 access to care really leads to adolescence,  
NOTE Confidence: 0.6783304533333333

00:03:51.880 --> 00:03:53.780 presenting very late in disease,  
NOTE Confidence: 0.6783304533333333

00:03:53.780 --> 00:03:56.090 but also how difficult it is  
NOTE Confidence: 0.6783304533333333

00:03:56.090 --> 00:03:58.360 to manage when kids present.  
NOTE Confidence: 0.6783304533333333

00:03:58.360 --> 00:04:00.286 So within that framework is where  
NOTE Confidence: 0.6783304533333333

00:04:00.286 --> 00:04:02.840 where I where I land and how I  
NOTE Confidence: 0.6783304533333333

00:04:02.840 --> 00:04:04.646 will be framing the talk today.  
NOTE Confidence: 0.6783304533333333

00:04:04.650 --> 00:04:06.841 And I have an outline thinking

NOTE Confidence: 0.678330453333333  
00:04:06.841 --> 00:04:08.707 together with you all about why,  
NOTE Confidence: 0.678330453333333  
00:04:08.710 --> 00:04:09.078 when,  
NOTE Confidence: 0.678330453333333  
00:04:09.078 --> 00:04:11.286 where and what are the barriers  
NOTE Confidence: 0.678330453333333  
00:04:11.286 --> 00:04:12.830 with identifying kids early.  
NOTE Confidence: 0.678330453333333  
00:04:12.830 --> 00:04:15.406 And I will focus mainly on 2 digital  
NOTE Confidence: 0.678330453333333  
00:04:15.406 --> 00:04:17.868 tools which have which I'm working on,  
NOTE Confidence: 0.678330453333333  
00:04:17.870 --> 00:04:19.574 which is game based and the electric the  
NOTE Confidence: 0.678330453333333  
00:04:19.574 --> 00:04:21.419 use of the electronic health records.  
NOTE Confidence: 0.851397984285714  
00:04:23.560 --> 00:04:25.394 And so when I say substance misuse,  
NOTE Confidence: 0.851397984285714  
00:04:25.400 --> 00:04:27.020 I mean unhealthy substance.  
NOTE Confidence: 0.851397984285714  
00:04:27.020 --> 00:04:30.659 Use of alcohol or drugs to relieve stress,  
NOTE Confidence: 0.851397984285714  
00:04:30.660 --> 00:04:32.640 alter reality or bring about pleasure.  
NOTE Confidence: 0.851397984285714  
00:04:32.640 --> 00:04:35.200 Using any way not prescribed by a doctor.  
NOTE Confidence: 0.851397984285714  
00:04:35.200 --> 00:04:36.860 Use without one's own prescription,  
NOTE Confidence: 0.851397984285714  
00:04:36.860 --> 00:04:38.400 using greater amounts, small often,  
NOTE Confidence: 0.851397984285714

00:04:38.400 --> 00:04:40.560 or longer than told to take.  
NOTE Confidence: 0.851397984285714

00:04:40.560 --> 00:04:43.140 And this affects 3.7 million adolescents,  
NOTE Confidence: 0.851397984285714

00:04:43.140 --> 00:04:44.617 as is the national Survey of Drug  
NOTE Confidence: 0.851397984285714

00:04:44.617 --> 00:04:46.003 Use and Health, which equates to  
NOTE Confidence: 0.851397984285714

00:04:46.003 --> 00:04:47.760 about one to two in \$10 cents.  
NOTE Confidence: 0.851397984285714

00:04:47.760 --> 00:04:49.914 So it's common, although the average  
NOTE Confidence: 0.851397984285714

00:04:49.914 --> 00:04:52.877 age of onset is about 15 to 17 years,  
NOTE Confidence: 0.851397984285714

00:04:52.880 --> 00:04:53.996 it can occur earlier.  
NOTE Confidence: 0.851397984285714

00:04:53.996 --> 00:04:56.429 And we know that younger age of onset  
NOTE Confidence: 0.851397984285714

00:04:56.429 --> 00:04:58.511 is associated with a greater likelihood  
NOTE Confidence: 0.851397984285714

00:04:58.511 --> 00:05:00.657 of developing a substance use disorder.  
NOTE Confidence: 0.851397984285714

00:05:00.660 --> 00:05:03.039 Outcomes are worse.  
NOTE Confidence: 0.851397984285714

00:05:03.040 --> 00:05:04.200 The consequences are dire.  
NOTE Confidence: 0.851397984285714

00:05:04.200 --> 00:05:06.634 So in the last two years we've seen  
NOTE Confidence: 0.851397984285714

00:05:06.634 --> 00:05:08.723 we're dealing with a crisis, right?  
NOTE Confidence: 0.851397984285714

00:05:08.723 --> 00:05:11.238 And drug overdose rates has



NOTE Confidence: 0.851397984285714  
00:05:11.238 --> 00:05:13.111 risen by 1 / 100%.  
NOTE Confidence: 0.851397984285714  
00:05:13.111 --> 00:05:14.833 If we look at the media  
NOTE Confidence: 0.851397984285714  
00:05:14.833 --> 00:05:16.319 monthly overdose deaths,  
NOTE Confidence: 0.851397984285714  
00:05:16.320 --> 00:05:17.344 it's associated with overdose,  
NOTE Confidence: 0.851397984285714  
00:05:17.344 --> 00:05:19.140 which can happen at the first time,  
NOTE Confidence: 0.851397984285714  
00:05:19.140 --> 00:05:22.115 the first time someone misuses a substance  
NOTE Confidence: 0.851397984285714  
00:05:22.120 --> 00:05:24.140 associated with comorbid mental disorders.  
NOTE Confidence: 0.851397984285714  
00:05:24.140 --> 00:05:26.780 Both as as increases the  
NOTE Confidence: 0.851397984285714  
00:05:26.780 --> 00:05:28.892 risk for substance abuse,  
NOTE Confidence: 0.851397984285714  
00:05:28.900 --> 00:05:31.156 but also as a consequence and  
NOTE Confidence: 0.851397984285714  
00:05:31.156 --> 00:05:32.660 of course associated with.  
NOTE Confidence: 0.851397984285714  
00:05:32.660 --> 00:05:35.300 Or functioning like school dropout  
NOTE Confidence: 0.851397984285714  
00:05:35.300 --> 00:05:37.412 legal problems for relationships.  
NOTE Confidence: 0.851397984285714  
00:05:37.420 --> 00:05:38.136 Also,  
NOTE Confidence: 0.851397984285714  
00:05:38.136 --> 00:05:42.122 the time between when disease staff  
NOTE Confidence: 0.851397984285714

00:05:42.122 --> 00:05:45.488 seems sad and initial treatment seeking.  
NOTE Confidence: 0.851397984285714

00:05:45.490 --> 00:05:47.920 Initial treatment seeking is on average.  
NOTE Confidence: 0.851397984285714

00:05:47.920 --> 00:05:49.280 This study done by Tesla,  
NOTE Confidence: 0.851397984285714

00:05:49.280 --> 00:05:52.304 which has reached really fund did they lead?  
NOTE Confidence: 0.851397984285714

00:05:52.310 --> 00:05:56.790 The National Comorbidity Survey was 16 years.  
NOTE Confidence: 0.851397984285714

00:05:56.790 --> 00:06:00.670 And I know you will agree that that's  
NOTE Confidence: 0.851397984285714

00:06:00.670 --> 00:06:03.842 that's unacceptable and it underscores the  
NOTE Confidence: 0.851397984285714

00:06:03.842 --> 00:06:07.010 importance and need to identify people.  
NOTE Confidence: 0.851397984285714

00:06:07.010 --> 00:06:08.874 Adolescence, early substances used  
NOTE Confidence: 0.851397984285714

00:06:08.874 --> 00:06:11.204 typically occur starts in adolescence,  
NOTE Confidence: 0.851397984285714

00:06:11.210 --> 00:06:13.639 which is which is why the focus.  
NOTE Confidence: 0.851397984285714

00:06:13.640 --> 00:06:16.090 Also less than 10% in need of  
NOTE Confidence: 0.851397984285714

00:06:16.090 --> 00:06:17.672 treatment receive it in 2021.  
NOTE Confidence: 0.851397984285714

00:06:17.672 --> 00:06:19.232 The number for adults since  
NOTE Confidence: 0.851397984285714

00:06:19.232 --> 00:06:22.490 12 to 17 years was 3.5%.  
NOTE Confidence: 0.851397984285714

00:06:22.490 --> 00:06:22.903 So.

NOTE Confidence: 0.851397984285714  
00:06:22.903 --> 00:06:25.381 Adolescent substance misuse is a major  
NOTE Confidence: 0.851397984285714  
00:06:25.381 --> 00:06:28.109 public health problem problem and most in  
NOTE Confidence: 0.851397984285714  
00:06:28.109 --> 00:06:30.500 need of treatment are not receiving it.  
NOTE Confidence: 0.851397984285714  
00:06:30.500 --> 00:06:32.885 If we've got to think about how might we,  
NOTE Confidence: 0.851397984285714  
00:06:32.890 --> 00:06:35.375 you know, start to solve this problem,  
NOTE Confidence: 0.851397984285714  
00:06:35.380 --> 00:06:36.388 one of the things that we  
NOTE Confidence: 0.851397984285714  
00:06:36.388 --> 00:06:37.310 might think about like where,  
NOTE Confidence: 0.851397984285714  
00:06:37.310 --> 00:06:37.720 where,  
NOTE Confidence: 0.851397984285714  
00:06:37.720 --> 00:06:38.950 where are adolescents?  
NOTE Confidence: 0.87053272  
00:06:41.400 --> 00:06:43.280 96% are enrolled in schools,  
NOTE Confidence: 0.87053272  
00:06:43.280 --> 00:06:44.484 not necessarily attending schools,  
NOTE Confidence: 0.87053272  
00:06:44.484 --> 00:06:45.989 but I6I enrolled in school,  
NOTE Confidence: 0.87053272  
00:06:45.990 --> 00:06:48.230 so there might be a way to  
NOTE Confidence: 0.87053272  
00:06:48.230 --> 00:06:49.610 like engage contact them.  
NOTE Confidence: 0.87053272  
00:06:49.610 --> 00:06:51.620 95% have access to a smartphone,  
NOTE Confidence: 0.87053272

00:06:51.620 --> 00:06:54.924 91% are seen in primary care annually.  
NOTE Confidence: 0.87053272

00:06:54.930 --> 00:06:58.938 90% are lined daily and 90% play video games.  
NOTE Confidence: 0.87053272

00:06:58.940 --> 00:07:01.332 So, umm, I think we need a systemic  
NOTE Confidence: 0.87053272

00:07:01.332 --> 00:07:03.858 model for addressing substance misuse.  
NOTE Confidence: 0.87053272

00:07:03.860 --> 00:07:06.620 And what I mean by systemic model is a model,  
NOTE Confidence: 0.87053272

00:07:06.620 --> 00:07:08.264 a national model that  
NOTE Confidence: 0.87053272

00:07:08.264 --> 00:07:09.497 screens all adolescents,  
NOTE Confidence: 0.87053272

00:07:09.500 --> 00:07:12.220 triages them based on their risk of use.  
NOTE Confidence: 0.87053272

00:07:12.220 --> 00:07:13.318 No substance misuse,  
NOTE Confidence: 0.87053272

00:07:13.318 --> 00:07:15.880 and so therefore it needs primary prevention,  
NOTE Confidence: 0.87053272

00:07:15.880 --> 00:07:17.560 at least substance misuse,  
NOTE Confidence: 0.87053272

00:07:17.560 --> 00:07:18.400 secondary prevention,  
NOTE Confidence: 0.87053272

00:07:18.400 --> 00:07:22.180 substance use disorder treatment. Umm.  
NOTE Confidence: 0.87053272

00:07:22.180 --> 00:07:27.516 And I think what digital tools can do,  
NOTE Confidence: 0.87053272

00:07:27.520 --> 00:07:28.996 we'll talk a bit about that,  
NOTE Confidence: 0.87053272

00:07:29.000 --> 00:07:30.368 how they can help with these.

NOTE Confidence: 0.87053272

00:07:30.370 --> 00:07:32.134 But one of the questions that come up is,

NOTE Confidence: 0.87053272

00:07:32.140 --> 00:07:33.834 well we already have a lot of

NOTE Confidence: 0.87053272

00:07:33.834 --> 00:07:35.760 kids who are struggling and we

NOTE Confidence: 0.87053272

00:07:35.760 --> 00:07:37.276 don't have enough providers.

NOTE Confidence: 0.87053272

00:07:37.280 --> 00:07:39.992 So this is only going to increase the

NOTE Confidence: 0.87053272

00:07:39.992 --> 00:07:42.024 number of kids who who were identifying.

NOTE Confidence: 0.87053272

00:07:42.024 --> 00:07:44.375 But I I would say that I think that

NOTE Confidence: 0.87053272

00:07:44.375 --> 00:07:46.007 the fact that we're not identifying

NOTE Confidence: 0.87053272

00:07:46.007 --> 00:07:47.719 them early is contributing to the

NOTE Confidence: 0.87053272

00:07:47.719 --> 00:07:49.450 number of kids that we're seeing

NOTE Confidence: 0.87053272

00:07:49.450 --> 00:07:52.170 who are really ill and at that time.

NOTE Confidence: 0.87053272

00:07:52.170 --> 00:07:55.000 It's really difficult to address symptoms

NOTE Confidence: 0.87053272

00:07:55.000 --> 00:07:57.880 as opposed to like if you catch them early.

NOTE Confidence: 0.87053272

00:07:57.880 --> 00:08:00.400 One of the systematic reviews we did earlier,

NOTE Confidence: 0.87053272

00:08:00.400 --> 00:08:01.891 some years ago,

NOTE Confidence: 0.87053272

00:08:01.891 --> 00:08:03.879 showed that interventions digitally  
NOTE Confidence: 0.87053272

00:08:03.879 --> 00:08:05.882 delivered interventions that deliver  
NOTE Confidence: 0.87053272

00:08:05.882 --> 00:08:08.117 universal or targeted interventions were  
NOTE Confidence: 0.87053272

00:08:08.117 --> 00:08:10.780 actually more likely to be effective,  
NOTE Confidence: 0.87053272

00:08:10.780 --> 00:08:13.270 which I think speaks to other  
NOTE Confidence: 0.87053272

00:08:13.270 --> 00:08:15.503 findings from other studies that  
NOTE Confidence: 0.87053272

00:08:15.503 --> 00:08:17.507 data interventions can adequately  
NOTE Confidence: 0.87053272

00:08:17.507 --> 00:08:20.142 target adolescents who have present  
NOTE Confidence: 0.87053272

00:08:20.142 --> 00:08:23.030 with mild to moderate symptoms.  
NOTE Confidence: 0.87053272

00:08:23.030 --> 00:08:25.370 As opposed to like severe disorders  
NOTE Confidence: 0.87053272

00:08:25.370 --> 00:08:27.926 which need which you you need more than,  
NOTE Confidence: 0.87053272

00:08:27.930 --> 00:08:31.870 you know, standalone digital intervention.  
NOTE Confidence: 0.87053272

00:08:31.870 --> 00:08:33.398 And so, you know,  
NOTE Confidence: 0.87053272

00:08:33.398 --> 00:08:36.240 the car as opposed to sustained model,  
NOTE Confidence: 0.87053272

00:08:36.240 --> 00:08:37.800 what we do, what we have,  
NOTE Confidence: 0.87053272

00:08:37.800 --> 00:08:39.879 where the model that we have is

NOTE Confidence: 0.87053272

00:08:39.879 --> 00:08:41.240 routine recommendation by Samsung,

NOTE Confidence: 0.87053272

00:08:41.240 --> 00:08:43.235 the American Academy of Pediatrics

NOTE Confidence: 0.87053272

00:08:43.235 --> 00:08:45.230 to screen routinely at annual

NOTE Confidence: 0.87053272

00:08:45.301 --> 00:08:46.549 primary care visits.

NOTE Confidence: 0.87053272

00:08:46.550 --> 00:08:48.965 And the way this happens is you,

NOTE Confidence: 0.87053272

00:08:48.970 --> 00:08:50.355 you know through the expert

NOTE Confidence: 0.87053272

00:08:50.355 --> 00:08:51.463 model where you screen,

NOTE Confidence: 0.87053272

00:08:51.470 --> 00:08:52.565 you have a proof intervention

NOTE Confidence: 0.87053272

00:08:52.565 --> 00:08:54.140 and then you refer to treatment.

NOTE Confidence: 0.87053272

00:08:54.140 --> 00:08:55.750 All of this is required.

NOTE Confidence: 0.87053272

00:08:55.750 --> 00:08:57.586 The primary care provider does this.

NOTE Confidence: 0.87053272

00:08:57.590 --> 00:08:59.360 Some systems do differently where there's

NOTE Confidence: 0.87053272

00:08:59.360 --> 00:09:01.169 someone in there who can deliver.

NOTE Confidence: 0.87053272

00:09:01.170 --> 00:09:02.066 Of intervention, but many,

NOTE Confidence: 0.87053272

00:09:02.066 --> 00:09:03.726 many times it falls on the shoulders

NOTE Confidence: 0.87053272

00:09:03.726 --> 00:09:05.096 of the primary care provider.

NOTE Confidence: 0.87053272

00:09:05.100 --> 00:09:07.165 There are no universal screening in schools.

NOTE Confidence: 0.87053272

00:09:07.170 --> 00:09:08.490 Schools do schools once,

NOTE Confidence: 0.87053272

00:09:08.490 --> 00:09:10.470 but they do whatever they can.

NOTE Confidence: 0.87053272

00:09:10.470 --> 00:09:12.760 It's not systemic at all.

NOTE Confidence: 0.87053272

00:09:12.760 --> 00:09:15.340 So what are the barriers?

NOTE Confidence: 0.87053272

00:09:15.340 --> 00:09:16.990 Many providers are not screening

NOTE Confidence: 0.87053272

00:09:16.990 --> 00:09:17.980 for substance misuse.

NOTE Confidence: 0.87053272

00:09:17.980 --> 00:09:19.520 There are time constraints,

NOTE Confidence: 0.87053272

00:09:19.520 --> 00:09:21.060 there's lack of reimbursement.

NOTE Confidence: 0.87053272

00:09:21.060 --> 00:09:23.125 It seems that every time we want

NOTE Confidence: 0.87053272

00:09:23.125 --> 00:09:25.206 to do something else that is

NOTE Confidence: 0.87053272

00:09:25.206 --> 00:09:26.714 prevention or preventive wise,

NOTE Confidence: 0.87053272

00:09:26.720 --> 00:09:28.890 we add some one more thing that

NOTE Confidence: 0.87053272

00:09:28.890 --> 00:09:30.508 primary care providers have to do.

NOTE Confidence: 0.87053272

00:09:30.510 --> 00:09:32.340 And so primary care providers have



NOTE Confidence: 0.87053272

00:09:32.340 --> 00:09:34.281 to triage and decide what they're

NOTE Confidence: 0.87053272

00:09:34.281 --> 00:09:36.273 going to prioritize in their visit,

NOTE Confidence: 0.87053272

00:09:36.280 --> 00:09:39.035 which might be appropriately informed

NOTE Confidence: 0.87053272

00:09:39.035 --> 00:09:42.104 by the presenting complaint and so.

NOTE Confidence: 0.87053272

00:09:42.104 --> 00:09:44.264 Provide us some providers have

NOTE Confidence: 0.87053272

00:09:44.264 --> 00:09:45.560 reported lacking knowledge

NOTE Confidence: 0.831023641764706

00:09:45.629 --> 00:09:48.086 about what screens to use the system.

NOTE Confidence: 0.831023641764706

00:09:48.090 --> 00:09:49.878 The workflow is in there to

NOTE Confidence: 0.831023641764706

00:09:49.878 --> 00:09:51.070 actually make this happen.

NOTE Confidence: 0.831023641764706

00:09:51.070 --> 00:09:52.446 What are the resources?

NOTE Confidence: 0.831023641764706

00:09:52.446 --> 00:09:54.510 I don't have resources of identifying

NOTE Confidence: 0.831023641764706

00:09:54.572 --> 00:09:56.210 how to figure out what to do.

NOTE Confidence: 0.831023641764706

00:09:56.210 --> 00:09:58.541 Occurrence not always aware of of of

NOTE Confidence: 0.831023641764706

00:09:58.541 --> 00:10:00.620 substance misuse among their adolescence.

NOTE Confidence: 0.831023641764706

00:10:00.620 --> 00:10:02.270 Adolescence are worried about disclosing

NOTE Confidence: 0.831023641764706

00:10:02.270 --> 00:10:04.661 this for the first time with their  
NOTE Confidence: 0.831023641764706

00:10:04.661 --> 00:10:06.707 parents being present so they're not  
NOTE Confidence: 0.831023641764706

00:10:06.707 --> 00:10:08.320 always forthcoming for many reasons.  
NOTE Confidence: 0.831023641764706

00:10:08.320 --> 00:10:11.968 The stigma there's no privacy in the clinics.  
NOTE Confidence: 0.831023641764706

00:10:11.970 --> 00:10:14.161 Umm, and so I'm saying I'm suggesting  
NOTE Confidence: 0.831023641764706

00:10:14.161 --> 00:10:16.158 that you talk to us, mere Canadians,  
NOTE Confidence: 0.831023641764706

00:10:16.158 --> 00:10:17.728 why some of these barriers?  
NOTE Confidence: 0.831023641764706

00:10:17.730 --> 00:10:19.134 There's wide reach.  
NOTE Confidence: 0.831023641764706

00:10:19.134 --> 00:10:21.006 You can automate this.  
NOTE Confidence: 0.831023641764706

00:10:21.010 --> 00:10:22.720 You can alleviate provider burden.  
NOTE Confidence: 0.831023641764706

00:10:22.720 --> 00:10:25.618 This can happen at any time.  
NOTE Confidence: 0.831023641764706

00:10:25.620 --> 00:10:27.657 The study by night at all showed  
NOTE Confidence: 0.831023641764706

00:10:27.657 --> 00:10:29.385 that adolescents are more honest  
NOTE Confidence: 0.831023641764706

00:10:29.385 --> 00:10:31.365 about the substance misuse when  
NOTE Confidence: 0.831023641764706

00:10:31.365 --> 00:10:32.989 completing digital screeners and  
NOTE Confidence: 0.831023641764706

00:10:32.989 --> 00:10:34.869 paper screens compared to interviews,

NOTE Confidence: 0.831023641764706  
00:10:34.870 --> 00:10:37.200 and there's potential for electronic  
NOTE Confidence: 0.831023641764706  
00:10:37.200 --> 00:10:38.598 health record integration.  
NOTE Confidence: 0.831023641764706  
00:10:38.600 --> 00:10:40.660 We could potentially build an  
NOTE Confidence: 0.831023641764706  
00:10:40.660 --> 00:10:42.308 automated system that identifies  
NOTE Confidence: 0.831023641764706  
00:10:42.308 --> 00:10:44.018 risk as it as it emerges,  
NOTE Confidence: 0.831023641764706  
00:10:44.020 --> 00:10:45.764 which would be ideal.  
NOTE Confidence: 0.831023641764706  
00:10:45.764 --> 00:10:46.636 Funnel appropriately,  
NOTE Confidence: 0.831023641764706  
00:10:46.640 --> 00:10:48.270 deliver an intervention if it's  
NOTE Confidence: 0.831023641764706  
00:10:48.270 --> 00:10:49.900 a standalone for multi moderate,  
NOTE Confidence: 0.831023641764706  
00:10:49.900 --> 00:10:53.396 figure out a way to deliver or funnel  
NOTE Confidence: 0.831023641764706  
00:10:53.396 --> 00:10:55.628 to to treatment for those who need.  
NOTE Confidence: 0.831023641764706  
00:10:55.630 --> 00:10:59.470 Specific treatment by a trained personnel.  
NOTE Confidence: 0.831023641764706  
00:10:59.470 --> 00:11:02.116 So what might an ideal digital  
NOTE Confidence: 0.831023641764706  
00:11:02.116 --> 00:11:03.439 Screener look like?  
NOTE Confidence: 0.831023641764706  
00:11:03.440 --> 00:11:05.120 I would suggest that it would be up,  
NOTE Confidence: 0.831023641764706

00:11:05.120 --> 00:11:05.666 you know,  
NOTE Confidence: 0.831023641764706

00:11:05.666 --> 00:11:07.304 objective as opposed to self report  
NOTE Confidence: 0.831023641764706

00:11:07.304 --> 00:11:08.966 will be effective at identifying  
NOTE Confidence: 0.831023641764706

00:11:08.966 --> 00:11:10.736 what you're trying to measure.  
NOTE Confidence: 0.831023641764706

00:11:10.740 --> 00:11:12.246 So substance misuse in this case.  
NOTE Confidence: 0.831023641764706

00:11:12.250 --> 00:11:14.840 It will be scalable and it will  
NOTE Confidence: 0.831023641764706

00:11:14.840 --> 00:11:17.213 be accessible at all times by  
NOTE Confidence: 0.831023641764706

00:11:17.213 --> 00:11:19.577 whoever needs needs to access it.  
NOTE Confidence: 0.831023641764706

00:11:19.580 --> 00:11:24.539 So my my proposition is that games may  
NOTE Confidence: 0.831023641764706

00:11:24.540 --> 00:11:26.988 offer an objective and effective method  
NOTE Confidence: 0.831023641764706

00:11:26.988 --> 00:11:29.470 for identifying at risk adolescents.  
NOTE Confidence: 0.831023641764706

00:11:29.470 --> 00:11:31.766 And this is based on the premise  
NOTE Confidence: 0.831023641764706

00:11:31.766 --> 00:11:34.198 of of metrics which experts call  
NOTE Confidence: 0.831023641764706

00:11:34.198 --> 00:11:36.940 digital biomarkers that are that are  
NOTE Confidence: 0.831023641764706

00:11:36.940 --> 00:11:39.468 captured by the by the game software.  
NOTE Confidence: 0.831023641764706

00:11:39.470 --> 00:11:41.675 And I like this definition of game

NOTE Confidence: 0.831023641764706  
00:11:41.675 --> 00:11:43.430 digital biomarkers which is which  
NOTE Confidence: 0.831023641764706  
00:11:43.430 --> 00:11:45.300 defines it as consumer generated  
NOTE Confidence: 0.831023641764706  
00:11:45.300 --> 00:11:46.888 physiological and behavioral measures  
NOTE Confidence: 0.831023641764706  
00:11:46.888 --> 00:11:48.512 collected through connected digital  
NOTE Confidence: 0.831023641764706  
00:11:48.512 --> 00:11:50.542 tools that explain influence or  
NOTE Confidence: 0.831023641764706  
00:11:50.550 --> 00:11:53.218 predict health related outcomes.  
NOTE Confidence: 0.831023641764706  
00:11:53.220 --> 00:11:55.780 So one example that has been used now  
NOTE Confidence: 0.831023641764706  
00:11:55.780 --> 00:11:58.159 is being used is motor performance  
NOTE Confidence: 0.831023641764706  
00:11:58.159 --> 00:12:00.244 in games and the identification  
NOTE Confidence: 0.831023641764706  
00:12:00.244 --> 00:12:02.410 of Ellie Parkinson's. Umm.  
NOTE Confidence: 0.831023641764706  
00:12:02.410 --> 00:12:05.350 And so could we do something similar?  
NOTE Confidence: 0.86210449047619  
00:12:07.710 --> 00:12:09.306 Games collect a lot of metrics and  
NOTE Confidence: 0.86210449047619  
00:12:09.306 --> 00:12:11.087 we'll talk a little more about the  
NOTE Confidence: 0.86210449047619  
00:12:11.087 --> 00:12:12.950 work that I've been doing around this.  
NOTE Confidence: 0.86210449047619  
00:12:12.950 --> 00:12:15.344 But games collect a lot of metrics,  
NOTE Confidence: 0.86210449047619

00:12:15.350 --> 00:12:16.995 and some of the metrics for example  
NOTE Confidence: 0.86210449047619

00:12:16.995 --> 00:12:18.668 are like time to complete a task,  
NOTE Confidence: 0.86210449047619

00:12:18.670 --> 00:12:20.320 accuracy of choices.  
NOTE Confidence: 0.86210449047619

00:12:20.320 --> 00:12:23.620 Those task may be informed by  
NOTE Confidence: 0.86210449047619

00:12:23.620 --> 00:12:26.020 cognitive processes such as maybe  
NOTE Confidence: 0.86210449047619

00:12:26.020 --> 00:12:27.570 working memory or inhibitory control,  
NOTE Confidence: 0.86210449047619

00:12:27.570 --> 00:12:31.448 which we know are implicated in development  
NOTE Confidence: 0.86210449047619

00:12:31.448 --> 00:12:35.031 of substance misuse and are also in  
NOTE Confidence: 0.86210449047619

00:12:35.031 --> 00:12:37.773 in impacted by misuse of substances.  
NOTE Confidence: 0.86210449047619

00:12:37.780 --> 00:12:40.354 And so if we're going to use games to  
NOTE Confidence: 0.86210449047619

00:12:40.354 --> 00:12:42.110 measure cognitive function or identify  
NOTE Confidence: 0.86210449047619

00:12:42.110 --> 00:12:45.359 kids who are at risk for substance misuse,  
NOTE Confidence: 0.86210449047619

00:12:45.360 --> 00:12:46.146 are they valid?  
NOTE Confidence: 0.86210449047619

00:12:46.146 --> 00:12:48.373 So we did a systematic review and meta  
NOTE Confidence: 0.86210449047619

00:12:48.373 --> 00:12:50.697 analysis to assess the validity of game  
NOTE Confidence: 0.86210449047619

00:12:50.697 --> 00:12:52.599 based assessments of cognitive function.

NOTE Confidence: 0.86210449047619

00:12:52.600 --> 00:12:54.865 This has been accepted in

NOTE Confidence: 0.86210449047619

00:12:54.865 --> 00:12:56.677 progress in brain research.

NOTE Confidence: 0.86210449047619

00:12:56.680 --> 00:12:59.422 We looked at studies examining game

NOTE Confidence: 0.86210449047619

00:12:59.422 --> 00:13:01.250 based assessments among children

NOTE Confidence: 0.86210449047619

00:13:01.326 --> 00:13:03.475 and adults and zero to 17 years,

NOTE Confidence: 0.86210449047619

00:13:03.480 --> 00:13:05.004 but four major questions

NOTE Confidence: 0.86210449047619

00:13:05.004 --> 00:13:06.147 general game characteristics,

NOTE Confidence: 0.86210449047619

00:13:06.150 --> 00:13:08.600 cognitive functions that were measured,

NOTE Confidence: 0.86210449047619

00:13:08.600 --> 00:13:09.780 how, what was the validity

NOTE Confidence: 0.86210449047619

00:13:09.780 --> 00:13:10.960 and how did they compare.

NOTE Confidence: 0.86210449047619

00:13:10.960 --> 00:13:13.207 They used in the studies used pairwise

NOTE Confidence: 0.86210449047619

00:13:13.207 --> 00:13:15.179 correlations and we're looking at factors

NOTE Confidence: 0.86210449047619

00:13:15.179 --> 00:13:17.075 that may influence the validity of.

NOTE Confidence: 0.86210449047619

00:13:17.080 --> 00:13:19.740 Game just assessments would define

NOTE Confidence: 0.86210449047619

00:13:19.740 --> 00:13:21.868 validity by criterion validity.

NOTE Confidence: 0.86210449047619

00:13:21.870 --> 00:13:24.621 So how well does a new measure  
NOTE Confidence: 0.86210449047619

00:13:24.621 --> 00:13:27.499 compared to an to a previously  
NOTE Confidence: 0.86210449047619

00:13:27.499 --> 00:13:30.174 validated measure using you know?  
NOTE Confidence: 0.86210449047619

00:13:30.180 --> 00:13:31.624 Here using pairwise correlation,  
NOTE Confidence: 0.86210449047619

00:13:31.624 --> 00:13:33.429 so pairwise correlations between games  
NOTE Confidence: 0.86210449047619

00:13:33.429 --> 00:13:35.186 that measured specific cognitive  
NOTE Confidence: 0.86210449047619

00:13:35.186 --> 00:13:36.978 functions and traditional assessments.  
NOTE Confidence: 0.86210449047619

00:13:36.980 --> 00:13:39.290 We did a meta analysis of specific  
NOTE Confidence: 0.86210449047619

00:13:39.290 --> 00:13:41.429 to these games had many tasks and  
NOTE Confidence: 0.86210449047619

00:13:41.429 --> 00:13:44.025 so we only did a meta analysis of  
NOTE Confidence: 0.86210449047619

00:13:44.025 --> 00:13:46.290 games that measured specific tasks.  
NOTE Confidence: 0.86210449047619

00:13:46.290 --> 00:13:48.336 So an impact task for working  
NOTE Confidence: 0.86210449047619

00:13:48.336 --> 00:13:50.604 memory to a traditional and back  
NOTE Confidence: 0.86210449047619

00:13:50.604 --> 00:13:52.276 task measuring working memory.  
NOTE Confidence: 0.86210449047619

00:13:52.280 --> 00:13:54.513 We're also interested in things that would  
NOTE Confidence: 0.86210449047619

00:13:54.513 --> 00:13:56.385 affect validity and we organized this



NOTE Confidence: 0.86210449047619  
00:13:56.385 --> 00:13:58.660 around things at the person level like age,  
NOTE Confidence: 0.86210449047619  
00:13:58.660 --> 00:13:59.482 sex, race,  
NOTE Confidence: 0.86210449047619  
00:13:59.482 --> 00:14:01.537 how the game was delete,  
NOTE Confidence: 0.86210449047619  
00:14:01.540 --> 00:14:02.680 where the game was delivered,  
NOTE Confidence: 0.86210449047619  
00:14:02.680 --> 00:14:03.994 home school clinic,  
NOTE Confidence: 0.86210449047619  
00:14:03.994 --> 00:14:07.060 and how the how the game itself.  
NOTE Confidence: 0.86210449047619  
00:14:07.060 --> 00:14:09.188 Operated one of the things I'll talk  
NOTE Confidence: 0.86210449047619  
00:14:09.188 --> 00:14:11.149 about the scarring analytical method.  
NOTE Confidence: 0.86210449047619  
00:14:11.150 --> 00:14:13.047 So you could you could you could  
NOTE Confidence: 0.86210449047619  
00:14:13.047 --> 00:14:15.032 do a task and basically measure  
NOTE Confidence: 0.86210449047619  
00:14:15.032 --> 00:14:17.240 for the impact test for example  
NOTE Confidence: 0.86210449047619  
00:14:17.240 --> 00:14:19.545 how many errors or go no go task,  
NOTE Confidence: 0.86210449047619  
00:14:19.550 --> 00:14:21.140 how many errors were made when  
NOTE Confidence: 0.86210449047619  
00:14:21.140 --> 00:14:22.709 this person was doing the test.  
NOTE Confidence: 0.86210449047619  
00:14:22.710 --> 00:14:24.960 As opposed to like using collecting  
NOTE Confidence: 0.86210449047619

00:14:24.960 --> 00:14:27.829 all the metrics in a game and  
NOTE Confidence: 0.86210449047619

00:14:27.829 --> 00:14:29.984 using an analytic machine learning  
NOTE Confidence: 0.86210449047619

00:14:29.984 --> 00:14:32.379 predictive model to predict cognitive  
NOTE Confidence: 0.86210449047619

00:14:32.379 --> 00:14:33.840 function for example.  
NOTE Confidence: 0.86210449047619

00:14:33.840 --> 00:14:35.660 So we extracted all of these metrics,  
NOTE Confidence: 0.86210449047619

00:14:35.660 --> 00:14:38.138 type of game, duration of gameplay,  
NOTE Confidence: 0.86210449047619

00:14:38.140 --> 00:14:38.998 narrative, storyline.  
NOTE Confidence: 0.86210449047619

00:14:38.998 --> 00:14:42.430 So one ways in which people are trying  
NOTE Confidence: 0.86210449047619

00:14:42.505 --> 00:14:44.690 to make screen assessments more  
NOTE Confidence: 0.86210449047619

00:14:44.690 --> 00:14:46.930 palatable is to gamify, for example.  
NOTE Confidence: 0.86210449047619

00:14:46.930 --> 00:14:48.890 And one way in which they gamify it  
NOTE Confidence: 0.86210449047619

00:14:48.942 --> 00:14:50.778 is to include a narrative storyline,  
NOTE Confidence: 0.86210449047619

00:14:50.780 --> 00:14:51.380 follow Mr.  
NOTE Confidence: 0.86210449047619

00:14:51.380 --> 00:14:53.480 X as it goes on a plane,  
NOTE Confidence: 0.86210449047619

00:14:53.480 --> 00:14:55.502 and then while that is happening  
NOTE Confidence: 0.86210449047619

00:14:55.502 --> 00:14:57.240 you have different cognitive tests.

NOTE Confidence: 0.86210449047619

00:14:57.240 --> 00:15:00.502 And so I was interested in whether

NOTE Confidence: 0.86210449047619

00:15:00.502 --> 00:15:03.340 this influenced the validity of game.

NOTE Confidence: 0.86210449047619

00:15:03.340 --> 00:15:05.320 Especially since I'll talk about my

NOTE Confidence: 0.86210449047619

00:15:05.320 --> 00:15:07.461 study which actually uses a narrative

NOTE Confidence: 0.86210449047619

00:15:07.461 --> 00:15:09.442 based game and we extracted this

NOTE Confidence: 0.86210449047619

00:15:09.442 --> 00:15:11.350 current method like I talked about

NOTE Confidence: 0.71839253736

00:15:11.416 --> 00:15:13.761 the study side mode of delivery and

NOTE Confidence: 0.71839253736

00:15:13.761 --> 00:15:15.514 this year's traditional validated tests

NOTE Confidence: 0.71839253736

00:15:15.514 --> 00:15:18.980 like the West, Kaufmanns, Baileys.

NOTE Confidence: 0.71839253736

00:15:18.980 --> 00:15:20.315 There were eighteen games across

NOTE Confidence: 0.71839253736

00:15:20.315 --> 00:15:21.879 20 studies, 17 serious games,

NOTE Confidence: 0.71839253736

00:15:21.879 --> 00:15:23.937 which means that they were specifically

NOTE Confidence: 0.71839253736

00:15:23.937 --> 00:15:25.898 designed to measure cognitive function,

NOTE Confidence: 0.71839253736

00:15:25.900 --> 00:15:27.680 and one commercially available game,

NOTE Confidence: 0.71839253736

00:15:27.680 --> 00:15:29.906 Minecraft, which was assessed for its

NOTE Confidence: 0.71839253736

00:15:29.906 --> 00:15:31.940 utility in assessing cognitive function.  
NOTE Confidence: 0.71839253736

00:15:31.940 --> 00:15:34.440 And compared with traditional assessments.  
NOTE Confidence: 0.71839253736

00:15:34.440 --> 00:15:36.760 The duration of Gameplay varied,  
NOTE Confidence: 0.71839253736

00:15:36.760 --> 00:15:38.968 So we can do much, much more with that.  
NOTE Confidence: 0.71839253736

00:15:38.968 --> 00:15:40.971 There were five games to use narrative  
NOTE Confidence: 0.71839253736

00:15:40.971 --> 00:15:43.155 story Line 6 studies of 20 studies,  
NOTE Confidence: 0.71839253736

00:15:43.160 --> 00:15:45.120 which is the predictive model.  
NOTE Confidence: 0.71839253736

00:15:45.120 --> 00:15:47.336 You can see the wide range of sites,  
NOTE Confidence: 0.71839253736

00:15:47.340 --> 00:15:49.104 the delivery mods. Words.  
NOTE Confidence: 0.71839253736

00:15:49.104 --> 00:15:51.750 Most of them were through computers  
NOTE Confidence: 0.71839253736

00:15:51.830 --> 00:15:54.314 and we extracted shout out to Megan  
NOTE Confidence: 0.71839253736

00:15:54.314 --> 00:15:56.618 and ISA for helping with extracting  
NOTE Confidence: 0.71839253736

00:15:56.618 --> 00:15:59.229 all of this coral correlations.  
NOTE Confidence: 0.71839253736

00:15:59.230 --> 00:16:02.068 But we extracted.  
NOTE Confidence: 0.71839253736

00:16:02.070 --> 00:16:04.425 375 pairwise correlations across the  
NOTE Confidence: 0.71839253736

00:16:04.425 --> 00:16:06.780 street difference through 20 studies.

NOTE Confidence: 0.71839253736

00:16:06.780 --> 00:16:08.170 75% of these were significant.

NOTE Confidence: 0.814061291111111

00:16:10.300 --> 00:16:13.150 Working memory was the most common

NOTE Confidence: 0.814061291111111

00:16:13.150 --> 00:16:14.575 cognitive function measured,

NOTE Confidence: 0.814061291111111

00:16:14.580 --> 00:16:15.972 followed by attention,

NOTE Confidence: 0.814061291111111

00:16:15.972 --> 00:16:18.756 inhibitory control and visual spatial skills.

NOTE Confidence: 0.814061291111111

00:16:18.760 --> 00:16:21.560 The meta analysis just quickly

NOTE Confidence: 0.814061291111111

00:16:21.560 --> 00:16:23.408 while on the low to medium range,

NOTE Confidence: 0.814061291111111

00:16:23.410 --> 00:16:25.190 which you might say compares

NOTE Confidence: 0.814061291111111

00:16:25.190 --> 00:16:26.614 to other validation studies.

NOTE Confidence: 0.814061291111111

00:16:26.620 --> 00:16:28.240 But for attention it was

NOTE Confidence: 0.814061291111111

00:16:28.240 --> 00:16:31.517 0.3 inhibitory control 0.3,

NOTE Confidence: 0.814061291111111

00:16:31.517 --> 00:16:36.270 my working memory at the best at 0.4.

NOTE Confidence: 0.814061291111111

00:16:36.270 --> 00:16:39.594 We did very basic frequency high

NOTE Confidence: 0.814061291111111

00:16:39.594 --> 00:16:42.405 square frequency comparisons by by

NOTE Confidence: 0.814061291111111

00:16:42.405 --> 00:16:44.413 correlations by these different

NOTE Confidence: 0.814061291111111

00:16:44.413 --> 00:16:47.970 factors and we found no differences  
NOTE Confidence: 0.8140612911111111

00:16:47.970 --> 00:16:50.130 by sites and format of delivery.  
NOTE Confidence: 0.8140612911111111

00:16:50.130 --> 00:16:52.377 But we found that adolescents tended to  
NOTE Confidence: 0.8140612911111111

00:16:52.377 --> 00:16:54.430 play older adolescents tend to play better.  
NOTE Confidence: 0.8140612911111111

00:16:54.430 --> 00:16:55.470 As you would expect.  
NOTE Confidence: 0.8140612911111111

00:16:55.470 --> 00:16:56.510 As you grow older,  
NOTE Confidence: 0.8140612911111111

00:16:56.510 --> 00:16:57.945 you would you your cognitive  
NOTE Confidence: 0.8140612911111111

00:16:57.945 --> 00:16:59.678 process will get better and you  
NOTE Confidence: 0.8140612911111111

00:16:59.678 --> 00:17:01.130 will play better in the game.  
NOTE Confidence: 0.8140612911111111

00:17:01.130 --> 00:17:02.648 And also as you would expect,  
NOTE Confidence: 0.8140612911111111

00:17:02.650 --> 00:17:04.904 a producer of a prediction model was  
NOTE Confidence: 0.8140612911111111

00:17:04.904 --> 00:17:06.574 more likely to yield significant.  
NOTE Confidence: 0.8140612911111111

00:17:06.574 --> 00:17:08.334 Solutions as you would expect,  
NOTE Confidence: 0.8140612911111111

00:17:08.340 --> 00:17:10.232 since they were specifically  
NOTE Confidence: 0.8140612911111111

00:17:10.232 --> 00:17:12.810 identifying metrics, right?  
NOTE Confidence: 0.8140612911111111

00:17:12.810 --> 00:17:14.679 But also the inclusion of a narrative

NOTE Confidence: 0.8140612911111111  
00:17:14.679 --> 00:17:16.914 story lines seem to be more associated  
NOTE Confidence: 0.8140612911111111  
00:17:16.914 --> 00:17:18.298 with non significant correlations.  
NOTE Confidence: 0.8140612911111111  
00:17:18.300 --> 00:17:20.855 So I wonder about whether  
NOTE Confidence: 0.8140612911111111  
00:17:20.855 --> 00:17:22.388 that was distracting.  
NOTE Confidence: 0.8140612911111111  
00:17:22.390 --> 00:17:24.638 All this to say in general is that  
NOTE Confidence: 0.8140612911111111  
00:17:24.638 --> 00:17:26.678 that that that there are factors  
NOTE Confidence: 0.8140612911111111  
00:17:26.678 --> 00:17:28.790 that influence the the how valid  
NOTE Confidence: 0.8140612911111111  
00:17:28.854 --> 00:17:31.116 game based games are for assessing  
NOTE Confidence: 0.8140612911111111  
00:17:31.116 --> 00:17:34.290 cognitive function is is the takeover.  
NOTE Confidence: 0.8140612911111111  
00:17:34.290 --> 00:17:36.774 We were interested in assisting for  
NOTE Confidence: 0.8140612911111111  
00:17:36.774 --> 00:17:40.706 race and none of the studies did  
NOTE Confidence: 0.8140612911111111  
00:17:40.710 --> 00:17:45.390 reviewed reported on race and ethnicity.  
NOTE Confidence: 0.8140612911111111  
00:17:45.390 --> 00:17:47.721 Most studies as you can see here  
NOTE Confidence: 0.8140612911111111  
00:17:47.721 --> 00:17:49.250 found effect differences for age.  
NOTE Confidence: 0.8140612911111111  
00:17:49.250 --> 00:17:51.885 Gender was really around spatial  
NOTE Confidence: 0.8140612911111111

00:17:51.885 --> 00:17:53.466 reasoning and ability,  
NOTE Confidence: 0.8140612911111111

00:17:53.470 --> 00:17:55.588 which I think relates to that.  
NOTE Confidence: 0.8140612911111111

00:17:55.590 --> 00:17:57.942 Boys are more exposed to buy their  
NOTE Confidence: 0.8140612911111111

00:17:57.942 --> 00:18:00.119 toys special task as opposed to  
NOTE Confidence: 0.8140612911111111

00:18:00.119 --> 00:18:01.959 like a biological difference and  
NOTE Confidence: 0.8140612911111111

00:18:01.959 --> 00:18:03.989 then prior exposure to gaming.  
NOTE Confidence: 0.8140612911111111

00:18:03.990 --> 00:18:05.882 Technology also influence which  
NOTE Confidence: 0.8140612911111111

00:18:05.882 --> 00:18:07.774 we'll talk about also.  
NOTE Confidence: 0.8140612911111111

00:18:07.780 --> 00:18:08.536 So if.  
NOTE Confidence: 0.8140612911111111

00:18:08.536 --> 00:18:11.182 If you can learn from the game,  
NOTE Confidence: 0.8140612911111111

00:18:11.190 --> 00:18:12.930 is it is it still?  
NOTE Confidence: 0.8140612911111111

00:18:12.930 --> 00:18:15.432 Can it still be useful as a screening tool?  
NOTE Confidence: 0.87810072

00:18:17.570 --> 00:18:20.174 And so I talked about this unexplored  
NOTE Confidence: 0.87810072

00:18:20.174 --> 00:18:22.841 factors which we we need to be thinking  
NOTE Confidence: 0.87810072

00:18:22.841 --> 00:18:25.656 about and we need to be assessing for  
NOTE Confidence: 0.87810072

00:18:25.656 --> 00:18:27.836 for widespread we're talking about



NOTE Confidence: 0.87810072

00:18:27.836 --> 00:18:30.380 scalable and scalability of this tools.

NOTE Confidence: 0.87810072

00:18:30.380 --> 00:18:32.780 So in summary, many adults and such risk

NOTE Confidence: 0.87810072

00:18:32.780 --> 00:18:34.880 for substance misuse are not identified.

NOTE Confidence: 0.87810072

00:18:34.880 --> 00:18:36.745 The use of digital tools

NOTE Confidence: 0.87810072

00:18:36.745 --> 00:18:38.237 can alleviate some barriers.

NOTE Confidence: 0.87810072

00:18:38.240 --> 00:18:40.228 Cognitive dysfunction is associated

NOTE Confidence: 0.87810072

00:18:40.228 --> 00:18:41.719 with substance misuse.

NOTE Confidence: 0.87810072

00:18:41.720 --> 00:18:44.828 Video games can measure cognitive function.

NOTE Confidence: 0.87810072

00:18:44.830 --> 00:18:46.982 So it may be a potential tool for

NOTE Confidence: 0.87810072

00:18:46.982 --> 00:18:48.496 identifying adult center to risk

NOTE Confidence: 0.87810072

00:18:48.496 --> 00:18:50.332 for substance misuse via measure of

NOTE Confidence: 0.87810072

00:18:50.332 --> 00:18:52.132 indices that correlates with cognitive

NOTE Confidence: 0.87810072

00:18:52.132 --> 00:18:53.927 functions that are also implicated

NOTE Confidence: 0.87810072

00:18:53.927 --> 00:18:57.130 in development of substance misuse.

NOTE Confidence: 0.87810072

00:18:57.130 --> 00:18:59.020 So this is one of the basis for our

NOTE Confidence: 0.87810072

00:18:59.020 --> 00:19:00.908 proof of concept study and the central  
NOTE Confidence: 0.87810072

00:19:00.908 --> 00:19:02.715 question is can data collected during  
NOTE Confidence: 0.87810072

00:19:02.715 --> 00:19:04.713 gameplay be used to identify adult  
NOTE Confidence: 0.87810072

00:19:04.713 --> 00:19:08.116 centered risk for substance misuse?  
NOTE Confidence: 0.87810072

00:19:08.116 --> 00:19:09.028 Umm.  
NOTE Confidence: 0.87810072

00:19:09.030 --> 00:19:10.680 Central hypothesis is that adolescence  
NOTE Confidence: 0.87810072

00:19:10.680 --> 00:19:12.675 with higher risk of substance misuse  
NOTE Confidence: 0.87810072

00:19:12.675 --> 00:19:14.684 will perform worse on the video game  
NOTE Confidence: 0.87810072

00:19:14.684 --> 00:19:15.939 and demonstrate poorer cognitive  
NOTE Confidence: 0.87810072

00:19:15.939 --> 00:19:17.519 function compared to adolescence at  
NOTE Confidence: 0.87810072

00:19:17.519 --> 00:19:19.895 a lower risk for substance misuse.  
NOTE Confidence: 0.87810072

00:19:19.895 --> 00:19:21.795 We've already established that  
NOTE Confidence: 0.87810072

00:19:21.795 --> 00:19:23.857 cognitive function influences how you  
NOTE Confidence: 0.87810072

00:19:23.857 --> 00:19:25.880 perform in a game and also influences  
NOTE Confidence: 0.87810072

00:19:25.880 --> 00:19:27.738 your risk for substance misuse.  
NOTE Confidence: 0.87810072

00:19:27.740 --> 00:19:29.342 So we're using play forward game

NOTE Confidence: 0.87810072

00:19:29.342 --> 00:19:31.359 developed in the play to Prevent Lab

NOTE Confidence: 0.87810072

00:19:31.359 --> 00:19:32.844 in narrative based game initially

NOTE Confidence: 0.87810072

00:19:32.844 --> 00:19:35.063 designed to target HIV and high risk

NOTE Confidence: 0.87810072

00:19:35.063 --> 00:19:36.319 behaviors like substance misuse.

NOTE Confidence: 0.87810072

00:19:36.320 --> 00:19:38.840 It has 12 levels and five mini games

NOTE Confidence: 0.87810072

00:19:38.840 --> 00:19:40.820 here shown at the bottom here.

NOTE Confidence: 0.87810072

00:19:40.820 --> 00:19:42.746 Each mini game has 10 levels.

NOTE Confidence: 0.87810072

00:19:42.750 --> 00:19:44.871 We'll talk a little bit about that

NOTE Confidence: 0.87810072

00:19:44.871 --> 00:19:47.199 and players and stars and points has

NOTE Confidence: 0.87810072

00:19:47.199 --> 00:19:49.233 been previously tested where we had

NOTE Confidence: 0.87810072

00:19:49.240 --> 00:19:52.800 160 where they were \$166 cents each,

NOTE Confidence: 0.87810072

00:19:52.800 --> 00:19:55.460 11 to 14 who played play forward.

NOTE Confidence: 0.87810072

00:19:55.460 --> 00:19:58.260 There were 43% black adolescents.

NOTE Confidence: 0.87810072

00:19:58.260 --> 00:20:02.856 15% fifty 6% Hispanics, Hispanic adolescents.

NOTE Confidence: 0.87810072

00:20:02.860 --> 00:20:05.245 So in the I will try and walk through

NOTE Confidence: 0.87810072

00:20:05.245 --> 00:20:07.549 the point to show how perhaps some

NOTE Confidence: 0.87810072

00:20:07.549 --> 00:20:09.502 of these metrics may correlate

NOTE Confidence: 0.87810072

00:20:09.502 --> 00:20:11.197 with cognitive processes.

NOTE Confidence: 0.87810072

00:20:11.200 --> 00:20:13.704 And so in the no sense mini game

NOTE Confidence: 0.87810072

00:20:13.704 --> 00:20:15.847 an adolescent has a challenge and

NOTE Confidence: 0.87810072

00:20:15.847 --> 00:20:18.013 they have to decide the statement

NOTE Confidence: 0.87810072

00:20:18.084 --> 00:20:20.166 presented to them about drug use

NOTE Confidence: 0.87810072

00:20:20.166 --> 00:20:22.484 or drug misuse and they have to

NOTE Confidence: 0.87810072

00:20:22.484 --> 00:20:24.332 decide if this statement is true

NOTE Confidence: 0.87810072

00:20:24.332 --> 00:20:26.599 false and or an opinion and so you

NOTE Confidence: 0.87810072

00:20:26.599 --> 00:20:28.613 can imagine that they have some of

NOTE Confidence: 0.87810072

00:20:28.613 --> 00:20:30.740 it is influenced of course by their

NOTE Confidence: 0.87810072

00:20:30.740 --> 00:20:32.840 their prior existing knowledge but.

NOTE Confidence: 0.87810072

00:20:32.840 --> 00:20:34.720 How quickly can they retrieve

NOTE Confidence: 0.87810072

00:20:34.720 --> 00:20:36.224 the information they know?

NOTE Confidence: 0.87810072

00:20:36.230 --> 00:20:38.030 Are they going to do that or are

NOTE Confidence: 0.87810072  
00:20:38.030 --> 00:20:39.848 they going to just choose an option?  
NOTE Confidence: 0.87810072  
00:20:39.850 --> 00:20:40.778 Impulsivity, perhaps,  
NOTE Confidence: 0.87810072  
00:20:40.778 --> 00:20:44.026 and how does that influence how well  
NOTE Confidence: 0.87810072  
00:20:44.026 --> 00:20:47.449 they perform as they're playing in the game?  
NOTE Confidence: 0.87810072  
00:20:47.450 --> 00:20:48.269 They have feedback,  
NOTE Confidence: 0.87810072  
00:20:48.269 --> 00:20:49.088 they get feedback.  
NOTE Confidence: 0.87810072  
00:20:49.090 --> 00:20:51.330 And so you can imagine that if that  
NOTE Confidence: 0.87810072  
00:20:51.330 --> 00:20:53.148 people will do better over time,  
NOTE Confidence: 0.87810072  
00:20:53.150 --> 00:20:54.560 unless they don't really don't  
NOTE Confidence: 0.87810072  
00:20:54.560 --> 00:20:56.379 care whether to do better or not.  
NOTE Confidence: 0.87810072  
00:20:56.380 --> 00:20:59.936 And can we seize those differences apart?  
NOTE Confidence: 0.87810072  
00:20:59.940 --> 00:21:00.320 Umm,  
NOTE Confidence: 0.87810072  
00:21:00.320 --> 00:21:02.980 in the People's Sense mini game this  
NOTE Confidence: 0.87810072  
00:21:02.980 --> 00:21:05.782 this player has to decide where to  
NOTE Confidence: 0.87810072  
00:21:05.782 --> 00:21:07.752 place their friend on friendship  
NOTE Confidence: 0.87810072

00:21:07.827 --> 00:21:10.886 circles and how they decide that ideally

NOTE Confidence: 0.87810072

00:21:10.886 --> 00:21:13.253 should be influenced by people's skills,

NOTE Confidence: 0.87810072

00:21:13.253 --> 00:21:15.008 which may reflect whether they

NOTE Confidence: 0.87810072

00:21:15.008 --> 00:21:16.870 are low risk or high risk.

NOTE Confidence: 0.782601811176471

00:21:16.870 --> 00:21:18.746 So for example, how do you observe

NOTE Confidence: 0.782601811176471

00:21:18.746 --> 00:21:20.141 people's skills while Jaden is

NOTE Confidence: 0.782601811176471

00:21:20.141 --> 00:21:21.476 always hanging out with Dante,

NOTE Confidence: 0.782601811176471

00:21:21.480 --> 00:21:22.980 but Dante happens to be so

NOTE Confidence: 0.782601811176471

00:21:22.980 --> 00:21:24.639 wasted at the party last night.

NOTE Confidence: 0.782601811176471

00:21:24.640 --> 00:21:27.154 Is he someone you wants and

NOTE Confidence: 0.782601811176471

00:21:27.154 --> 00:21:28.830 you're very close circle?

NOTE Confidence: 0.782601811176471

00:21:28.830 --> 00:21:30.594 So when you decide that's the play,

NOTE Confidence: 0.782601811176471

00:21:30.600 --> 00:21:32.532 it gets more complex as you

NOTE Confidence: 0.782601811176471

00:21:32.532 --> 00:21:33.703 go through higher levels,

NOTE Confidence: 0.782601811176471

00:21:33.703 --> 00:21:35.670 but you can imagine that a player

NOTE Confidence: 0.782601811176471

00:21:35.723 --> 00:21:37.178 has to keep that information.

NOTE Confidence: 0.782601811176471  
00:21:37.180 --> 00:21:39.076 You can say they can always go back  
NOTE Confidence: 0.782601811176471  
00:21:39.076 --> 00:21:40.720 and click and look at the risk,  
NOTE Confidence: 0.782601811176471  
00:21:40.720 --> 00:21:43.121 but how quickly you advance in this  
NOTE Confidence: 0.782601811176471  
00:21:43.121 --> 00:21:45.559 game depends also on how much of  
NOTE Confidence: 0.782601811176471  
00:21:45.559 --> 00:21:47.575 that information you can keep within.  
NOTE Confidence: 0.782601811176471  
00:21:47.580 --> 00:21:49.435 And when they finish placing  
NOTE Confidence: 0.782601811176471  
00:21:49.435 --> 00:21:50.919 friends in their circle,  
NOTE Confidence: 0.782601811176471  
00:21:50.920 --> 00:21:53.320 they then have invites that they  
NOTE Confidence: 0.782601811176471  
00:21:53.320 --> 00:21:56.079 get and the invites that they get.  
NOTE Confidence: 0.782601811176471  
00:21:56.080 --> 00:21:57.460 They have to decide whether  
NOTE Confidence: 0.782601811176471  
00:21:57.460 --> 00:21:58.840 this is a good invite.  
NOTE Confidence: 0.782601811176471  
00:21:58.840 --> 00:22:00.525 Very risky invites and depending  
NOTE Confidence: 0.782601811176471  
00:22:00.525 --> 00:22:02.670 on whether they decline or accept,  
NOTE Confidence: 0.782601811176471  
00:22:02.670 --> 00:22:03.549 they get stars.  
NOTE Confidence: 0.782601811176471  
00:22:03.549 --> 00:22:05.014 So if you accept like  
NOTE Confidence: 0.782601811176471

00:22:05.014 --> 00:22:06.550 invites that are very risky,  
NOTE Confidence: 0.782601811176471

00:22:06.550 --> 00:22:10.590 you can have three strikes in your house.  
NOTE Confidence: 0.782601811176471

00:22:10.590 --> 00:22:14.500 And so I'm we myself,  
NOTE Confidence: 0.782601811176471

00:22:14.500 --> 00:22:18.160 Megan Isabella played the game and  
NOTE Confidence: 0.782601811176471

00:22:18.160 --> 00:22:20.638 page by page of the game reviewed.  
NOTE Confidence: 0.782601811176471

00:22:20.640 --> 00:22:23.624 What are specific metrics in the game that  
NOTE Confidence: 0.782601811176471

00:22:23.624 --> 00:22:27.038 may be influenced by cognitive processes?  
NOTE Confidence: 0.782601811176471

00:22:27.040 --> 00:22:28.188 And so, for example,  
NOTE Confidence: 0.782601811176471

00:22:28.188 --> 00:22:29.623 in the deciding your friends,  
NOTE Confidence: 0.782601811176471

00:22:29.630 --> 00:22:30.098 for example,  
NOTE Confidence: 0.782601811176471

00:22:30.098 --> 00:22:30.800 in people's sense,  
NOTE Confidence: 0.782601811176471

00:22:30.800 --> 00:22:33.902 checking out like this time spent  
NOTE Confidence: 0.782601811176471

00:22:33.902 --> 00:22:35.768 checking PS characteristics and  
NOTE Confidence: 0.782601811176471

00:22:35.768 --> 00:22:37.616 there's you have to correctly set  
NOTE Confidence: 0.782601811176471

00:22:37.616 --> 00:22:39.459 peers into right social circles,  
NOTE Confidence: 0.782601811176471

00:22:39.460 --> 00:22:41.916 and we're hypothesizing that



NOTE Confidence: 0.782601811176471  
00:22:41.916 --> 00:22:44.372 these domains are probably  
NOTE Confidence: 0.782601811176471  
00:22:44.372 --> 00:22:46.530 influencing those processes.  
NOTE Confidence: 0.782601811176471  
00:22:46.530 --> 00:22:50.202 And also when you are accepting and rejecting  
NOTE Confidence: 0.782601811176471  
00:22:50.202 --> 00:22:52.878 invites correctly accepting or declining.  
NOTE Confidence: 0.782601811176471  
00:22:52.880 --> 00:22:53.343 Um,  
NOTE Confidence: 0.782601811176471  
00:22:53.343 --> 00:22:54.732 that these processes,  
NOTE Confidence: 0.782601811176471  
00:22:54.732 --> 00:22:57.047 this cognitive processes and domains  
NOTE Confidence: 0.782601811176471  
00:22:57.047 --> 00:22:59.828 are influencing how well adolescence  
NOTE Confidence: 0.782601811176471  
00:22:59.830 --> 00:23:02.798 perform in this tasks in the game.  
NOTE Confidence: 0.782601811176471  
00:23:02.800 --> 00:23:05.000 You can also see that there are constructs,  
NOTE Confidence: 0.782601811176471  
00:23:05.000 --> 00:23:06.660 so there's a time construct,  
NOTE Confidence: 0.782601811176471  
00:23:06.660 --> 00:23:08.724 and there's also an accuracy conduct  
NOTE Confidence: 0.782601811176471  
00:23:08.724 --> 00:23:10.578 time constructing yellow and the  
NOTE Confidence: 0.782601811176471  
00:23:10.578 --> 00:23:11.847 accuracy constructing green.  
NOTE Confidence: 0.88460253  
00:23:14.260 --> 00:23:18.120 And so. The the first game from  
NOTE Confidence: 0.88460253

00:23:18.120 --> 00:23:20.020 this study be butanol, that is,  
NOTE Confidence: 0.88460253

00:23:20.020 --> 00:23:22.435 can we identify them metrics in the  
NOTE Confidence: 0.88460253

00:23:22.435 --> 00:23:24.868 game that are predictive of substance  
NOTE Confidence: 0.88460253

00:23:24.868 --> 00:23:27.960 misuse and can we derive a prediction  
NOTE Confidence: 0.88460253

00:23:27.960 --> 00:23:30.480 model using those identified metrics?  
NOTE Confidence: 0.88460253

00:23:30.480 --> 00:23:31.768 We used 166 participants.  
NOTE Confidence: 0.88460253

00:23:31.768 --> 00:23:33.056 Like I talked about.  
NOTE Confidence: 0.88460253

00:23:33.060 --> 00:23:34.648 We had two outcomes,  
NOTE Confidence: 0.88460253

00:23:34.648 --> 00:23:36.236 substance misuse and self  
NOTE Confidence: 0.88460253

00:23:36.236 --> 00:23:38.000 efficacy to refuse drugs.  
NOTE Confidence: 0.88460253

00:23:38.000 --> 00:23:39.878 Sometimes it's used was already measured  
NOTE Confidence: 0.88460253

00:23:39.878 --> 00:23:42.009 using the youth Risk Behavior Survey.  
NOTE Confidence: 0.88460253

00:23:42.010 --> 00:23:43.625 There were twenty questions related  
NOTE Confidence: 0.88460253

00:23:43.625 --> 00:23:45.852 to alcohol and drug use and we'll  
NOTE Confidence: 0.88460253

00:23:45.852 --> 00:23:47.496 talk a little more about this,  
NOTE Confidence: 0.88460253

00:23:47.500 --> 00:23:49.018 but some of those questions included

NOTE Confidence: 0.88460253

00:23:49.018 --> 00:23:50.799 if I tried using the cigarettes,

NOTE Confidence: 0.88460253

00:23:50.800 --> 00:23:53.020 which I think contributed to this

NOTE Confidence: 0.88460253

00:23:53.020 --> 00:23:55.496 being overall a low risk group in

NOTE Confidence: 0.88460253

00:23:55.496 --> 00:23:58.000 terms of like if you used once you

NOTE Confidence: 0.88460253

00:23:58.000 --> 00:24:00.450 were you were considered high risk.

NOTE Confidence: 0.88460253

00:24:00.450 --> 00:24:02.460 Um, based on just how many?

NOTE Confidence: 0.88460253

00:24:02.460 --> 00:24:05.972 The variance in the sample and then

NOTE Confidence: 0.88460253

00:24:05.972 --> 00:24:08.018 self efficacy to refuse drugs was

NOTE Confidence: 0.88460253

00:24:08.018 --> 00:24:10.201 measured using the door scale and

NOTE Confidence: 0.88460253

00:24:10.201 --> 00:24:11.996 we dichotomized these two outcomes.

NOTE Confidence: 0.814705158

00:24:14.240 --> 00:24:15.865 We use the the variance

NOTE Confidence: 0.814705158

00:24:15.865 --> 00:24:17.490 threshold metal method to drop

NOTE Confidence: 0.814705158

00:24:17.559 --> 00:24:19.429 all metrics with zero variance.

NOTE Confidence: 0.814705158

00:24:19.430 --> 00:24:21.398 So if they have no variance then they

NOTE Confidence: 0.814705158

00:24:21.398 --> 00:24:23.141 are likely to differentiate the two

NOTE Confidence: 0.814705158

00:24:23.141 --> 00:24:24.929 groups between low and high risk.  
NOTE Confidence: 0.814705158

00:24:24.930 --> 00:24:27.090 And we also dropped some variables  
NOTE Confidence: 0.814705158

00:24:27.090 --> 00:24:29.760 that had very high multicollinearity  
NOTE Confidence: 0.814705158

00:24:29.760 --> 00:24:31.685 and used this machine learning  
NOTE Confidence: 0.814705158

00:24:31.685 --> 00:24:33.225 technique called cross validation  
NOTE Confidence: 0.814705158

00:24:33.225 --> 00:24:35.315 which splits the data and then splits  
NOTE Confidence: 0.814705158

00:24:35.315 --> 00:24:37.229 the data even more and and checks  
NOTE Confidence: 0.814705158

00:24:37.229 --> 00:24:39.000 to make sure that how the model  
NOTE Confidence: 0.814705158

00:24:39.000 --> 00:24:41.168 performs in one set of data is the  
NOTE Confidence: 0.814705158

00:24:41.168 --> 00:24:43.298 same across multiple sets of the data.  
NOTE Confidence: 0.814705158

00:24:43.300 --> 00:24:45.204 It's a very small sample for people  
NOTE Confidence: 0.814705158

00:24:45.204 --> 00:24:47.053 who do machine learning statistics as  
NOTE Confidence: 0.814705158

00:24:47.053 --> 00:24:49.335 one single is like very small sample.  
NOTE Confidence: 0.814705158

00:24:49.340 --> 00:24:51.920 Usually you want to be using  
NOTE Confidence: 0.814705158

00:24:51.920 --> 00:24:53.192 samples 600 and above.  
NOTE Confidence: 0.814705158

00:24:53.192 --> 00:24:56.188 And so we were limited in the amount of

NOTE Confidence: 0.814705158  
00:24:56.188 --> 00:24:58.554 like can we examine race for example,  
NOTE Confidence: 0.814705158  
00:24:58.560 --> 00:25:00.084 which is something that I wanted  
NOTE Confidence: 0.814705158  
00:25:00.084 --> 00:25:01.480 to examine other other models,  
NOTE Confidence: 0.814705158  
00:25:01.480 --> 00:25:03.280 the same between black and  
NOTE Confidence: 0.814705158  
00:25:03.280 --> 00:25:04.720 white adolescents for example.  
NOTE Confidence: 0.814705158  
00:25:04.720 --> 00:25:07.596 And then we tested these six different  
NOTE Confidence: 0.814705158  
00:25:07.596 --> 00:25:09.836 models and computer AUC values.  
NOTE Confidence: 0.814705158  
00:25:09.840 --> 00:25:11.778 AUC value tells you how well  
NOTE Confidence: 0.814705158  
00:25:11.778 --> 00:25:13.070 your model is doing.  
NOTE Confidence: 0.814705158  
00:25:13.070 --> 00:25:15.600 And 0.5 usually means that  
NOTE Confidence: 0.814705158  
00:25:15.600 --> 00:25:17.624 it's not doing anything,  
NOTE Confidence: 0.814705158  
00:25:17.630 --> 00:25:20.269 0.6 means that it's performing moderately OK,  
NOTE Confidence: 0.814705158  
00:25:20.270 --> 00:25:21.735 and 0.7 usually means this  
NOTE Confidence: 0.814705158  
00:25:21.735 --> 00:25:23.200 is a pretty good model.  
NOTE Confidence: 0.731522816  
00:25:25.480 --> 00:25:30.448 So we excluded 6 um log files that were  
NOTE Confidence: 0.731522816

00:25:30.448 --> 00:25:32.533 corrupted or were from adolescence.  
NOTE Confidence: 0.731522816

00:25:32.540 --> 00:25:36.222 We had there were mostly mostly corrupted  
NOTE Confidence: 0.731522816

00:25:36.222 --> 00:25:39.270 or were incomplete and based on the final  
NOTE Confidence: 0.731522816

00:25:39.270 --> 00:25:41.349 sample one in three adolescents had high  
NOTE Confidence: 0.731522816

00:25:41.349 --> 00:25:43.565 risk or causing the high risk of substance  
NOTE Confidence: 0.731522816

00:25:43.627 --> 00:25:45.553 misuse and wanting about wanting to  
NOTE Confidence: 0.731522816

00:25:45.553 --> 00:25:48.355 have poor self efficacy to refuse drugs.  
NOTE Confidence: 0.731522816

00:25:48.355 --> 00:25:51.012 We ultimately had 285 in  
NOTE Confidence: 0.731522816

00:25:51.012 --> 00:25:53.296 game metrics after cleaning.  
NOTE Confidence: 0.731522816

00:25:53.300 --> 00:25:55.004 So our first outcome,  
NOTE Confidence: 0.731522816

00:25:55.004 --> 00:25:57.134 a model was not good.  
NOTE Confidence: 0.731522816

00:25:57.140 --> 00:26:00.570 So the model didn't predict what didn't  
NOTE Confidence: 0.731522816

00:26:00.570 --> 00:26:03.499 predict substance misuse among adolescents.  
NOTE Confidence: 0.731522816

00:26:03.500 --> 00:26:07.910 Umm. And but the second outcome  
NOTE Confidence: 0.731522816

00:26:07.910 --> 00:26:10.010 self efficacy to refuse drugs.  
NOTE Confidence: 0.731522816

00:26:10.010 --> 00:26:12.425 The logistic regression model seem

NOTE Confidence: 0.731522816  
00:26:12.425 --> 00:26:14.840 to perform relatively well across  
NOTE Confidence: 0.731522816  
00:26:14.919 --> 00:26:17.307 multiple and was stable across multiple  
NOTE Confidence: 0.731522816  
00:26:17.307 --> 00:26:21.980 cuts of the data with an AUC of 0.6.  
NOTE Confidence: 0.731522816  
00:26:21.980 --> 00:26:23.798 When we looked at the model,  
NOTE Confidence: 0.731522816  
00:26:23.800 --> 00:26:26.215 when we looked at what was contributing,  
NOTE Confidence: 0.731522816  
00:26:26.220 --> 00:26:28.180 what metrics were contributing  
NOTE Confidence: 0.731522816  
00:26:28.180 --> 00:26:29.650 to this prediction?  
NOTE Confidence: 0.731522816  
00:26:29.650 --> 00:26:31.930 What I take from here is that most  
NOTE Confidence: 0.731522816  
00:26:31.930 --> 00:26:33.891 of them happened at the beginning.  
NOTE Confidence: 0.731522816  
00:26:33.891 --> 00:26:35.808 So zero level 0, there were ten levels,  
NOTE Confidence: 0.731522816  
00:26:35.808 --> 00:26:37.981 zero level 0 to 9 and most of these  
NOTE Confidence: 0.731522816  
00:26:37.981 --> 00:26:39.291 were happening at the beginning  
NOTE Confidence: 0.731522816  
00:26:39.291 --> 00:26:40.479 of the of the game.  
NOTE Confidence: 0.731522816  
00:26:40.480 --> 00:26:42.864 Which again speaks to like can these be  
NOTE Confidence: 0.731522816  
00:26:42.864 --> 00:26:45.702 used as a can just really be used as a  
NOTE Confidence: 0.731522816

00:26:45.702 --> 00:26:47.837 screening if it identifies if it can,  
NOTE Confidence: 0.731522816

00:26:47.840 --> 00:26:49.562 if your performance can change over  
NOTE Confidence: 0.731522816

00:26:49.562 --> 00:26:51.597 time and is if your performance  
NOTE Confidence: 0.731522816

00:26:51.597 --> 00:26:52.836 changing over time.  
NOTE Confidence: 0.731522816

00:26:52.840 --> 00:26:54.802 Is that reflective of an improvement  
NOTE Confidence: 0.731522816

00:26:54.802 --> 00:26:56.533 in function that actually influences  
NOTE Confidence: 0.731522816

00:26:56.533 --> 00:26:58.009 substance misuse or not?  
NOTE Confidence: 0.731522816

00:26:58.010 --> 00:27:00.550 Many questions are raised right?  
NOTE Confidence: 0.731522816

00:27:00.550 --> 00:27:02.482 So in summary I think there  
NOTE Confidence: 0.731522816

00:27:02.482 --> 00:27:03.448 are outstanding questions.  
NOTE Confidence: 0.731522816

00:27:03.450 --> 00:27:05.564 I think we found certain game metrics  
NOTE Confidence: 0.731522816

00:27:05.564 --> 00:27:07.797 were predicted of self efficacy to refuse  
NOTE Confidence: 0.731522816

00:27:07.797 --> 00:27:09.930 drugs among adolescents aged 11 to 14,  
NOTE Confidence: 0.731522816

00:27:09.930 --> 00:27:11.258 but not drug misuse.  
NOTE Confidence: 0.731522816

00:27:11.258 --> 00:27:13.250 I think this was an overall  
NOTE Confidence: 0.731522816

00:27:13.326 --> 00:27:14.990 overall low risk sample.



NOTE Confidence: 0.731522816  
00:27:14.990 --> 00:27:16.742 Game based features may be more  
NOTE Confidence: 0.731522816  
00:27:16.742 --> 00:27:17.910 useful as monitoring metrics  
NOTE Confidence: 0.731522816  
00:27:17.964 --> 00:27:19.669 during an intervention for example,  
NOTE Confidence: 0.731522816  
00:27:19.670 --> 00:27:21.875 like if you embed them as opposed  
NOTE Confidence: 0.731522816  
00:27:21.875 --> 00:27:23.806 to screening, but if you embed.  
NOTE Confidence: 0.731522816  
00:27:23.806 --> 00:27:25.750 Them into an intervention and you  
NOTE Confidence: 0.731522816  
00:27:25.819 --> 00:27:28.035 use machine learning algorithms  
NOTE Confidence: 0.731522816  
00:27:28.035 --> 00:27:29.697 to personalize interventions,  
NOTE Confidence: 0.731522816  
00:27:29.700 --> 00:27:31.630 and you've documented at baseline  
NOTE Confidence: 0.731522816  
00:27:31.630 --> 00:27:33.174 where people have deficits.  
NOTE Confidence: 0.731522816  
00:27:33.180 --> 00:27:35.292 Could you then use that as a monitoring  
NOTE Confidence: 0.731522816  
00:27:35.292 --> 00:27:36.899 over time of the improvement?  
NOTE Confidence: 0.731522816  
00:27:36.900 --> 00:27:39.238 But then you also have to show  
NOTE Confidence: 0.731522816  
00:27:39.238 --> 00:27:41.773 that the the improvement is related  
NOTE Confidence: 0.731522816  
00:27:41.773 --> 00:27:45.628 to actual improvement in risk.  
NOTE Confidence: 0.731522816

00:27:45.630 --> 00:27:48.185 And then we probably need better game  
NOTE Confidence: 0.731522816

00:27:48.185 --> 00:27:50.327 behavior that is more reflective  
NOTE Confidence: 0.731522816

00:27:50.327 --> 00:27:51.788 of substance misuse.  
NOTE Confidence: 0.731522816

00:27:51.790 --> 00:27:54.205 Some of the work that people are  
NOTE Confidence: 0.731522816

00:27:54.205 --> 00:27:56.310 beginning to think about is like  
NOTE Confidence: 0.731522816

00:27:56.310 --> 00:27:58.634 are there can you embed cues within  
NOTE Confidence: 0.731522816

00:27:58.702 --> 00:28:01.406 a game and and can you use more  
NOTE Confidence: 0.731522816

00:28:01.406 --> 00:28:03.149 biometric measures and would that  
NOTE Confidence: 0.731522816

00:28:03.149 --> 00:28:05.267 be more reflective as opposed to,  
NOTE Confidence: 0.731522816

00:28:05.270 --> 00:28:05.892 you know,  
NOTE Confidence: 0.731522816

00:28:05.892 --> 00:28:08.069 how people are performing in a game,  
NOTE Confidence: 0.731522816

00:28:08.070 --> 00:28:11.227 for example. So there's definitely more work.  
NOTE Confidence: 0.731522816

00:28:11.230 --> 00:28:12.795 I think further investigation is  
NOTE Confidence: 0.731522816

00:28:12.795 --> 00:28:15.038 needed at this algorithm is going to be.  
NOTE Confidence: 0.731522816

00:28:15.040 --> 00:28:15.371 Finally,  
NOTE Confidence: 0.731522816

00:28:15.371 --> 00:28:17.026 valid whether the hypothesis may

NOTE Confidence: 0.731522816

00:28:17.026 --> 00:28:19.829 be at play that account for these

NOTE Confidence: 0.731522816

00:28:19.829 --> 00:28:21.242 predictions algorithms performing

NOTE Confidence: 0.731522816

00:28:21.242 --> 00:28:23.126 similarly between among black

NOTE Confidence: 0.731522816

00:28:23.189 --> 00:28:25.745 adolescents as opposed to white adolescents.

NOTE Confidence: 0.731522816

00:28:25.750 --> 00:28:27.520 Umm.

NOTE Confidence: 0.731522816

00:28:27.520 --> 00:28:29.095 One of the things we're going to do so,

NOTE Confidence: 0.731522816

00:28:29.100 --> 00:28:31.036 so far we've we've looked at a precise

NOTE Confidence: 0.731522816

00:28:31.036 --> 00:28:32.350 prediction for substance misuse,

NOTE Confidence: 0.871203191538462

00:28:32.350 --> 00:28:34.548 right. But we're our hypothesis is that

NOTE Confidence: 0.871203191538462

00:28:34.548 --> 00:28:36.800 this is influenced by cognitive processes.

NOTE Confidence: 0.871203191538462

00:28:36.800 --> 00:28:38.068 But we haven't tested

NOTE Confidence: 0.871203191538462

00:28:38.068 --> 00:28:39.019 for cognitive processes.

NOTE Confidence: 0.871203191538462

00:28:39.020 --> 00:28:41.449 So we're going to embark on a

NOTE Confidence: 0.871203191538462

00:28:41.449 --> 00:28:44.399 pilot to see if those same mackers,

NOTE Confidence: 0.871203191538462

00:28:44.400 --> 00:28:46.892 we can compute the score using the

NOTE Confidence: 0.871203191538462

00:28:46.892 --> 00:28:49.310 logistic regression model and if those  
NOTE Confidence: 0.871203191538462

00:28:49.310 --> 00:28:51.450 are actually associated with executive  
NOTE Confidence: 0.871203191538462

00:28:51.450 --> 00:28:53.221 functioning measured by actual tasks  
NOTE Confidence: 0.871203191538462

00:28:53.221 --> 00:28:55.216 like the impact test and the go,  
NOTE Confidence: 0.871203191538462

00:28:55.220 --> 00:28:56.780 no GO task among.  
NOTE Confidence: 0.871203191538462

00:28:56.780 --> 00:28:58.730 14 to 15 years old.  
NOTE Confidence: 0.871203191538462

00:28:58.730 --> 00:29:00.236 So we'll see.  
NOTE Confidence: 0.871203191538462

00:29:00.236 --> 00:29:03.750 We'll see what that data tells us.  
NOTE Confidence: 0.871203191538462

00:29:03.750 --> 00:29:06.630 So in addition to games,  
NOTE Confidence: 0.871203191538462

00:29:06.630 --> 00:29:08.670 we talked a lot about games.  
NOTE Confidence: 0.871203191538462

00:29:08.670 --> 00:29:10.246 I think I think I got you know,  
NOTE Confidence: 0.871203191538462

00:29:10.250 --> 00:29:12.658 I presented the slide where I say let's  
NOTE Confidence: 0.871203191538462

00:29:12.658 --> 00:29:14.289 meet adolescence wherever they are,  
NOTE Confidence: 0.871203191538462

00:29:14.290 --> 00:29:16.586 how they are engaging with the world.  
NOTE Confidence: 0.871203191538462

00:29:16.590 --> 00:29:18.921 And so you know the games I one of  
NOTE Confidence: 0.871203191538462

00:29:18.921 --> 00:29:20.888 the areas that I've been thinking

NOTE Confidence: 0.871203191538462  
00:29:20.888 --> 00:29:23.903 about is how do we use the electronic  
NOTE Confidence: 0.871203191538462  
00:29:23.903 --> 00:29:26.078 medical record to identify risk.  
NOTE Confidence: 0.871203191538462  
00:29:26.080 --> 00:29:29.391 Umm, and our rush risk of substance  
NOTE Confidence: 0.871203191538462  
00:29:29.391 --> 00:29:32.449 misuse rationale is that the you know,  
NOTE Confidence: 0.871203191538462  
00:29:32.450 --> 00:29:34.358 the HR is already in use.  
NOTE Confidence: 0.871203191538462  
00:29:34.360 --> 00:29:36.565 It has vast amounts of data and  
NOTE Confidence: 0.871203191538462  
00:29:36.565 --> 00:29:38.959 these that are routinely collected.  
NOTE Confidence: 0.871203191538462  
00:29:38.960 --> 00:29:40.448 We don't need a different process  
NOTE Confidence: 0.871203191538462  
00:29:40.448 --> 00:29:41.440 for collecting this data.  
NOTE Confidence: 0.871203191538462  
00:29:41.440 --> 00:29:44.200 It's already happening.  
NOTE Confidence: 0.871203191538462  
00:29:44.200 --> 00:29:45.664 There are two types of data  
NOTE Confidence: 0.871203191538462  
00:29:45.664 --> 00:29:46.910 that occur that you can.  
NOTE Confidence: 0.871203191538462  
00:29:46.910 --> 00:29:47.926 I mean there's it.  
NOTE Confidence: 0.871203191538462  
00:29:47.926 --> 00:29:49.196 There's a large debate about  
NOTE Confidence: 0.871203191538462  
00:29:49.196 --> 00:29:50.697 the kinds of data in the HR,  
NOTE Confidence: 0.871203191538462

00:29:50.700 --> 00:29:52.044 but largely there's two  
NOTE Confidence: 0.871203191538462

00:29:52.044 --> 00:29:54.060 kinds of data in the EHR,  
NOTE Confidence: 0.871203191538462

00:29:54.060 --> 00:29:56.000 structured data and unstructured data.  
NOTE Confidence: 0.871203191538462

00:29:56.000 --> 00:29:59.416 Structured data you might say like things  
NOTE Confidence: 0.871203191538462

00:29:59.416 --> 00:30:02.460 that someone selects from pre populated,  
NOTE Confidence: 0.871203191538462

00:30:02.460 --> 00:30:03.740 it's already in the system  
NOTE Confidence: 0.871203191538462

00:30:03.740 --> 00:30:04.764 and you select all.  
NOTE Confidence: 0.871203191538462

00:30:04.770 --> 00:30:06.510 This person has an alcohol use  
NOTE Confidence: 0.871203191538462

00:30:06.510 --> 00:30:08.532 disorder you selected as opposed to  
NOTE Confidence: 0.871203191538462

00:30:08.532 --> 00:30:11.220 like a structure where a provider is  
NOTE Confidence: 0.871203191538462

00:30:11.297 --> 00:30:14.120 imputing what they think and data.  
NOTE Confidence: 0.871203191538462

00:30:14.120 --> 00:30:17.550 The type of data is important from  
NOTE Confidence: 0.871203191538462

00:30:17.550 --> 00:30:20.110 a from a from the point of trust.  
NOTE Confidence: 0.871203191538462

00:30:20.110 --> 00:30:22.549 And we talk a little bit about about trust,  
NOTE Confidence: 0.871203191538462

00:30:22.550 --> 00:30:25.448 like what data can we trust?  
NOTE Confidence: 0.871203191538462

00:30:25.450 --> 00:30:26.236 Is the problem,

NOTE Confidence: 0.871203191538462  
00:30:26.236 --> 00:30:27.808 can we trust the problem list?  
NOTE Confidence: 0.871203191538462  
00:30:27.810 --> 00:30:31.960 Is it always complete 80%?  
NOTE Confidence: 0.871203191538462  
00:30:31.960 --> 00:30:34.168 There is not.  
NOTE Confidence: 0.871203191538462  
00:30:34.170 --> 00:30:38.699 And is it nice thing to load?  
NOTE Confidence: 0.871203191538462  
00:30:38.700 --> 00:30:39.654 Um, can we,  
NOTE Confidence: 0.871203191538462  
00:30:39.654 --> 00:30:42.456 you know or or do we trust the  
NOTE Confidence: 0.871203191538462  
00:30:42.456 --> 00:30:45.396 clinical notes at the clinical notes,  
NOTE Confidence: 0.871203191538462  
00:30:45.400 --> 00:30:46.585 what kind of information we  
NOTE Confidence: 0.871203191538462  
00:30:46.585 --> 00:30:47.533 get from the clinical?  
NOTE Confidence: 0.871203191538462  
00:30:47.540 --> 00:30:49.036 Are they more predictive?  
NOTE Confidence: 0.871203191538462  
00:30:49.036 --> 00:30:51.628 The consensus is that we should be  
NOTE Confidence: 0.871203191538462  
00:30:51.628 --> 00:30:53.602 using both all kinds of data that  
NOTE Confidence: 0.871203191538462  
00:30:53.602 --> 00:30:56.571 we can get from the EHR as long as  
NOTE Confidence: 0.871203191538462  
00:30:56.571 --> 00:30:58.510 we're intentional about why we're  
NOTE Confidence: 0.871203191538462  
00:30:58.510 --> 00:31:01.300 using them and also intentional and  
NOTE Confidence: 0.871203191538462

00:31:01.300 --> 00:31:03.657 thoughtful about what we find from,  
NOTE Confidence: 0.871203191538462

00:31:03.660 --> 00:31:05.940 you know, whatever models that we find from,  
NOTE Confidence: 0.871203191538462

00:31:05.940 --> 00:31:08.466 from the use of this data.  
NOTE Confidence: 0.871203191538462

00:31:08.470 --> 00:31:10.325 Prior studies have shown that  
NOTE Confidence: 0.871203191538462

00:31:10.325 --> 00:31:13.111 we can use EHR data to predict  
NOTE Confidence: 0.871203191538462

00:31:13.111 --> 00:31:15.241 mental health outcomes as you  
NOTE Confidence: 0.871203191538462

00:31:15.241 --> 00:31:17.098 side health services research,  
NOTE Confidence: 0.871203191538462

00:31:17.098 --> 00:31:18.410 suicide prediction, depression,  
NOTE Confidence: 0.871203191538462

00:31:18.410 --> 00:31:19.490 anxiety and alcohol.  
NOTE Confidence: 0.871203191538462

00:31:19.490 --> 00:31:22.011 And these are findings from two different  
NOTE Confidence: 0.871203191538462

00:31:22.011 --> 00:31:24.693 studies on the left here as one study here,  
NOTE Confidence: 0.871203191538462

00:31:24.700 --> 00:31:26.635 which was among young adults  
NOTE Confidence: 0.871203191538462

00:31:26.635 --> 00:31:28.570 and this was among adolescents.  
NOTE Confidence: 0.871203191538462

00:31:28.570 --> 00:31:31.804 And the models were pretty pretty good.  
NOTE Confidence: 0.871203191538462

00:31:31.810 --> 00:31:33.630 Good enough, I would say,  
NOTE Confidence: 0.871203191538462

00:31:33.630 --> 00:31:36.214 in identifying these disorders



NOTE Confidence: 0.871203191538462  
00:31:36.214 --> 00:31:37.506 among adolescents.  
NOTE Confidence: 0.871203191538462  
00:31:37.510 --> 00:31:39.670 So it can be used.  
NOTE Confidence: 0.871203191538462  
00:31:39.670 --> 00:31:40.960 I think there are limited  
NOTE Confidence: 0.871203191538462  
00:31:40.960 --> 00:31:42.250 studies among the adults and  
NOTE Confidence: 0.749348361818182  
00:31:42.303 --> 00:31:42.830 population,  
NOTE Confidence: 0.749348361818182  
00:31:42.830 --> 00:31:44.790 particularly using unstructured data.  
NOTE Confidence: 0.749348361818182  
00:31:44.790 --> 00:31:48.140 Most of the studies use structured data.  
NOTE Confidence: 0.749348361818182  
00:31:48.140 --> 00:31:51.478 And I'm, I'm very interested, you know,  
NOTE Confidence: 0.749348361818182  
00:31:51.478 --> 00:31:54.341 I showed this slide about the median  
NOTE Confidence: 0.749348361818182  
00:31:54.341 --> 00:31:57.639 time between onset of symptoms and  
NOTE Confidence: 0.749348361818182  
00:31:57.639 --> 00:31:59.883 actual initial treatment contact.  
NOTE Confidence: 0.749348361818182  
00:31:59.890 --> 00:32:04.622 Is it possible to derive a model  
NOTE Confidence: 0.749348361818182  
00:32:04.622 --> 00:32:08.568 that identifies risk as the mergers  
NOTE Confidence: 0.749348361818182  
00:32:08.570 --> 00:32:11.695 and then funnel an adolescent  
NOTE Confidence: 0.749348361818182  
00:32:11.695 --> 00:32:13.570 appropriately to intervention?  
NOTE Confidence: 0.749348361818182

00:32:13.570 --> 00:32:16.410 It would mean that you have a way  
NOTE Confidence: 0.749348361818182

00:32:16.410 --> 00:32:19.395 to to to determine time to event or  
NOTE Confidence: 0.749348361818182

00:32:19.395 --> 00:32:22.071 time between the onset of symptoms  
NOTE Confidence: 0.749348361818182

00:32:22.071 --> 00:32:24.521 and when has recurrently defined  
NOTE Confidence: 0.749348361818182

00:32:24.521 --> 00:32:27.030 substance use disorder, for example.  
NOTE Confidence: 0.749348361818182

00:32:27.030 --> 00:32:29.690 So I'm I would like to explore  
NOTE Confidence: 0.749348361818182

00:32:29.690 --> 00:32:32.135 that and investigate that and I  
NOTE Confidence: 0.749348361818182

00:32:32.135 --> 00:32:35.281 think there's a lack of focus on  
NOTE Confidence: 0.749348361818182

00:32:35.281 --> 00:32:37.445 disparities and why disparities.  
NOTE Confidence: 0.749348361818182

00:32:37.450 --> 00:32:38.125 Um.  
NOTE Confidence: 0.749348361818182

00:32:38.125 --> 00:32:38.800 Umm.  
NOTE Confidence: 0.756174702222222

00:32:42.060 --> 00:32:44.508 Lack of focus on disparities can  
NOTE Confidence: 0.756174702222222

00:32:44.508 --> 00:32:46.176 cause harm and machine learning.  
NOTE Confidence: 0.756174702222222

00:32:46.176 --> 00:32:47.920 You know, a few years ago we said  
NOTE Confidence: 0.756174702222222

00:32:47.972 --> 00:32:49.127 we thought machine learning was  
NOTE Confidence: 0.756174702222222

00:32:49.127 --> 00:32:50.720 going to solve all our problems.

NOTE Confidence: 0.756174702222222

00:32:50.720 --> 00:32:53.240 There was truth in it and we would be

NOTE Confidence: 0.756174702222222

00:32:53.240 --> 00:32:55.999 able to identify every insoluble problem.

NOTE Confidence: 0.756174702222222

00:32:56.000 --> 00:32:57.848 And now we're finding that machine

NOTE Confidence: 0.756174702222222

00:32:57.848 --> 00:32:59.440 learning algorithms are inherently biased.

NOTE Confidence: 0.756174702222222

00:32:59.440 --> 00:33:03.444 And some are. Some are racist and.

NOTE Confidence: 0.756174702222222

00:33:03.450 --> 00:33:04.140 And so on the left,

NOTE Confidence: 0.756174702222222

00:33:04.140 --> 00:33:06.108 here we have Google apologizing for

NOTE Confidence: 0.756174702222222

00:33:06.108 --> 00:33:08.347 having an algorithm that then gets a bug,

NOTE Confidence: 0.756174702222222

00:33:08.350 --> 00:33:11.841 but then this bug uses for some reason.

NOTE Confidence: 0.756174702222222

00:33:11.841 --> 00:33:14.339 However it does this, it's able to.

NOTE Confidence: 0.756174702222222

00:33:14.339 --> 00:33:16.254 It's now identified that now

NOTE Confidence: 0.756174702222222

00:33:16.254 --> 00:33:18.207 identifies black people, wrongly,

NOTE Confidence: 0.756174702222222

00:33:18.207 --> 00:33:19.521 as guerrillas.

NOTE Confidence: 0.756174702222222

00:33:19.521 --> 00:33:23.462 And on the right is this famous people

NOTE Confidence: 0.756174702222222

00:33:23.462 --> 00:33:27.164 might have known about this study by Obama.

NOTE Confidence: 0.756174702222222

00:33:27.164 --> 00:33:28.898 Yeah, which?  
NOTE Confidence: 0.7561747022222222

00:33:28.900 --> 00:33:32.536 Was looking at the models used in a program,  
NOTE Confidence: 0.7561747022222222

00:33:32.540 --> 00:33:36.740 where the program was designed to  
NOTE Confidence: 0.7561747022222222

00:33:36.740 --> 00:33:39.080 automatically funnel adults into  
NOTE Confidence: 0.7561747022222222

00:33:39.080 --> 00:33:41.900 a program that helped them manage  
NOTE Confidence: 0.7561747022222222

00:33:41.900 --> 00:33:43.750 comorbid chronic conditions.  
NOTE Confidence: 0.7561747022222222

00:33:43.750 --> 00:33:47.040 And so the algorithm computer the score  
NOTE Confidence: 0.7561747022222222

00:33:47.040 --> 00:33:50.987 and the risk score was at 97 percentile,  
NOTE Confidence: 0.7561747022222222

00:33:50.990 --> 00:33:52.572 and if you reach that based on  
NOTE Confidence: 0.7561747022222222

00:33:52.572 --> 00:33:54.290 the number of chronic conditions,  
NOTE Confidence: 0.7561747022222222

00:33:54.290 --> 00:33:56.298 you were automatically funneled  
NOTE Confidence: 0.7561747022222222

00:33:56.298 --> 00:33:57.804 into this program.  
NOTE Confidence: 0.7561747022222222

00:33:57.810 --> 00:34:00.645 And so you can see that the the the  
NOTE Confidence: 0.7561747022222222

00:34:00.645 --> 00:34:03.161 couple line is for blacks and the  
NOTE Confidence: 0.7561747022222222

00:34:03.161 --> 00:34:06.032 orange line or white is for the yellows  
NOTE Confidence: 0.7561747022222222

00:34:06.032 --> 00:34:09.016 for whites that whites at a lower level,

NOTE Confidence: 0.756174702222222

00:34:09.016 --> 00:34:11.281 lower number of active chronic

NOTE Confidence: 0.756174702222222

00:34:11.281 --> 00:34:13.628 conditions were being funneled into

NOTE Confidence: 0.756174702222222

00:34:13.628 --> 00:34:15.918 the program earlier than blacks.

NOTE Confidence: 0.756174702222222

00:34:15.920 --> 00:34:17.105 And so, umm,

NOTE Confidence: 0.756174702222222

00:34:17.105 --> 00:34:19.080 when they when they risk

NOTE Confidence: 0.756174702222222

00:34:19.080 --> 00:34:20.240 wasn't accounted for.

NOTE Confidence: 0.756174702222222

00:34:20.240 --> 00:34:23.068 Race is not exactly a very good

NOTE Confidence: 0.756174702222222

00:34:23.070 --> 00:34:25.247 because we're learning it's not a very

NOTE Confidence: 0.756174702222222

00:34:25.247 --> 00:34:26.928 good metric for assessing racism.

NOTE Confidence: 0.756174702222222

00:34:26.928 --> 00:34:30.496 But I think it's a, it's a good start,

NOTE Confidence: 0.756174702222222

00:34:30.496 --> 00:34:32.352 especially if you're intentional

NOTE Confidence: 0.756174702222222

00:34:32.352 --> 00:34:33.632 about examining disparities.

NOTE Confidence: 0.756174702222222

00:34:33.632 --> 00:34:36.474 But they didn't account for that here.

NOTE Confidence: 0.756174702222222

00:34:36.480 --> 00:34:38.050 They simply just deployed an

NOTE Confidence: 0.756174702222222

00:34:38.050 --> 00:34:40.120 algorithm based on data that existed.

NOTE Confidence: 0.756174702222222

00:34:40.120 --> 00:34:42.540 But when they examined,  
NOTE Confidence: 0.7561747022222222

00:34:42.540 --> 00:34:46.410 they realized they realized that the.  
NOTE Confidence: 0.7561747022222222

00:34:46.410 --> 00:34:47.850 Metric, which is why I,  
NOTE Confidence: 0.7561747022222222

00:34:47.850 --> 00:34:48.576 you know,  
NOTE Confidence: 0.7561747022222222

00:34:48.576 --> 00:34:50.391 examined the metric like what  
NOTE Confidence: 0.7561747022222222

00:34:50.391 --> 00:34:51.995 metrics are actually contributing  
NOTE Confidence: 0.7561747022222222

00:34:51.995 --> 00:34:53.787 to our prediction model.  
NOTE Confidence: 0.7561747022222222

00:34:53.790 --> 00:34:55.813 So when they examine the metrics that  
NOTE Confidence: 0.7561747022222222

00:34:55.813 --> 00:34:57.269 we're contributing to this model,  
NOTE Confidence: 0.7561747022222222

00:34:57.270 --> 00:35:00.598 they found that the one of the largest  
NOTE Confidence: 0.7561747022222222

00:35:00.598 --> 00:35:03.108 contributor of the model was cost  
NOTE Confidence: 0.7561747022222222

00:35:03.108 --> 00:35:05.930 and that whites were more likely to  
NOTE Confidence: 0.7561747022222222

00:35:05.930 --> 00:35:09.730 spend more per chronic condition than blacks.  
NOTE Confidence: 0.7561747022222222

00:35:09.730 --> 00:35:10.050 Why?  
NOTE Confidence: 0.7561747022222222

00:35:10.050 --> 00:35:12.290 Some of the things that like there  
NOTE Confidence: 0.7561747022222222

00:35:12.290 --> 00:35:14.410 are many competing priorities,

NOTE Confidence: 0.756174702222222

00:35:14.410 --> 00:35:16.740 Blacks may not be able to take time off work.

NOTE Confidence: 0.756174702222222

00:35:16.740 --> 00:35:19.350 To go and see their doctor,

NOTE Confidence: 0.756174702222222

00:35:19.350 --> 00:35:22.689 whites were more likely to have procedures

NOTE Confidence: 0.756174702222222

00:35:22.689 --> 00:35:24.610 and inpatients appointment large.

NOTE Confidence: 0.756174702222222

00:35:24.610 --> 00:35:27.424 This is to say that if if

NOTE Confidence: 0.756174702222222

00:35:27.424 --> 00:35:29.150 we're not intentional like.

NOTE Confidence: 0.756174702222222

00:35:29.150 --> 00:35:31.950 Algorithms can do a lot of good,

NOTE Confidence: 0.756174702222222

00:35:31.950 --> 00:35:33.594 but they can also cost ham

NOTE Confidence: 0.756174702222222

00:35:33.594 --> 00:35:35.570 and we need to be thinking.

NOTE Confidence: 0.756174702222222

00:35:35.570 --> 00:35:36.474 Or at least I,

NOTE Confidence: 0.756174702222222

00:35:36.474 --> 00:35:38.214 as someone who is doing a lot

NOTE Confidence: 0.756174702222222

00:35:38.214 --> 00:35:39.716 of machine learning research,

NOTE Confidence: 0.756174702222222

00:35:39.716 --> 00:35:42.630 needs to be thinking about how

NOTE Confidence: 0.756174702222222

00:35:42.630 --> 00:35:44.030 how these models are used.

NOTE Confidence: 0.756174702222222

00:35:44.030 --> 00:35:46.074 What informs these models and can we,

NOTE Confidence: 0.756174702222222

00:35:46.080 --> 00:35:48.262 before we deploy them for, you know,  
NOTE Confidence: 0.7561747022222222

00:35:48.262 --> 00:35:50.417 deploy them for prime time?  
NOTE Confidence: 0.7561747022222222

00:35:50.420 --> 00:35:53.076 And so the question that we're asking is,  
NOTE Confidence: 0.7561747022222222

00:35:53.080 --> 00:35:54.776 can data collected routinely  
NOTE Confidence: 0.7561747022222222

00:35:54.776 --> 00:35:56.896 in the electronic health record  
NOTE Confidence: 0.78245094

00:35:56.900 --> 00:35:58.910 be used to identify adolescents  
NOTE Confidence: 0.78245094

00:35:58.910 --> 00:36:00.920 at risk for substance misuse?  
NOTE Confidence: 0.78245094

00:36:00.920 --> 00:36:02.645 And now they are algorithmic  
NOTE Confidence: 0.78245094

00:36:02.645 --> 00:36:04.370 differences by racial ethnic groups?  
NOTE Confidence: 0.871253395882353

00:36:06.830 --> 00:36:08.850 We will identify electronic health  
NOTE Confidence: 0.871253395882353

00:36:08.850 --> 00:36:10.870 record data features that predict  
NOTE Confidence: 0.871253395882353

00:36:10.933 --> 00:36:13.069 substance use disorder will derive a  
NOTE Confidence: 0.871253395882353

00:36:13.069 --> 00:36:14.962 model will determine if electronic  
NOTE Confidence: 0.871253395882353

00:36:14.962 --> 00:36:16.494 health record features predictive  
NOTE Confidence: 0.871253395882353

00:36:16.494 --> 00:36:18.129 of substance misuse disorder.  
NOTE Confidence: 0.871253395882353

00:36:18.130 --> 00:36:20.410 So use this sort of default by racial



NOTE Confidence: 0.871253395882353  
00:36:20.410 --> 00:36:22.449 ethnic groups and then we'll try to derive  
NOTE Confidence: 0.871253395882353  
00:36:22.449 --> 00:36:24.853 a lot of time so these these features  
NOTE Confidence: 0.871253395882353  
00:36:24.853 --> 00:36:26.965 are collected at different time points.  
NOTE Confidence: 0.871253395882353  
00:36:26.970 --> 00:36:29.314 When do at what point do you have  
NOTE Confidence: 0.871253395882353  
00:36:29.314 --> 00:36:31.156 enough features in the model that  
NOTE Confidence: 0.871253395882353  
00:36:31.156 --> 00:36:32.950 you can actually see this person  
NOTE Confidence: 0.871253395882353  
00:36:32.950 --> 00:36:36.400 should be further assessed and.  
NOTE Confidence: 0.871253395882353  
00:36:36.400 --> 00:36:38.304 What is the length of time between  
NOTE Confidence: 0.871253395882353  
00:36:38.304 --> 00:36:40.558 when those at documented and the first  
NOTE Confidence: 0.871253395882353  
00:36:40.558 --> 00:36:42.628 determination of substance use is so  
NOTE Confidence: 0.871253395882353  
00:36:42.692 --> 00:36:44.988 that they exist right now and also  
NOTE Confidence: 0.871253395882353  
00:36:44.988 --> 00:36:46.646 referral for behavioral health services  
NOTE Confidence: 0.871253395882353  
00:36:46.646 --> 00:36:48.977 and also determine if that length of  
NOTE Confidence: 0.871253395882353  
00:36:48.977 --> 00:36:51.088 time there any racial ethnic differences  
NOTE Confidence: 0.871253395882353  
00:36:51.088 --> 00:36:53.339 in those in that length of time?  
NOTE Confidence: 0.871253395882353

00:36:53.340 --> 00:36:55.510 We're going to use data from the  
NOTE Confidence: 0.871253395882353

00:36:55.510 --> 00:36:56.440 Fairhaven Community Healthcare.  
NOTE Confidence: 0.871253395882353

00:36:56.440 --> 00:36:59.212 They have about 100 / 100,000  
NOTE Confidence: 0.871253395882353

00:36:59.212 --> 00:37:01.550 records and we're going to use that  
NOTE Confidence: 0.871253395882353

00:37:01.620 --> 00:37:03.870 training model for predicting SD.  
NOTE Confidence: 0.871253395882353

00:37:03.870 --> 00:37:06.048 We will validate that model among  
NOTE Confidence: 0.871253395882353

00:37:06.048 --> 00:37:09.310 adolescents 12 to 17 years and we'll use  
NOTE Confidence: 0.871253395882353

00:37:09.310 --> 00:37:11.480 both structured and unstructured data.  
NOTE Confidence: 0.871253395882353

00:37:11.480 --> 00:37:13.888 So right now we have IRB approval and  
NOTE Confidence: 0.871253395882353

00:37:13.888 --> 00:37:16.207 we're working through data use agreements.  
NOTE Confidence: 0.813578638636364

00:37:18.660 --> 00:37:21.229 So hope, hope, hopeful to have some  
NOTE Confidence: 0.813578638636364

00:37:21.229 --> 00:37:24.201 of this data and stats get into the  
NOTE Confidence: 0.813578638636364

00:37:24.201 --> 00:37:26.840 nitty gritty nephew in a few weeks.  
NOTE Confidence: 0.813578638636364

00:37:26.840 --> 00:37:30.984 So, in conclusion, a dozen substance  
NOTE Confidence: 0.813578638636364

00:37:30.984 --> 00:37:33.560 misuse is a major public health problem.  
NOTE Confidence: 0.813578638636364

00:37:33.560 --> 00:37:36.170 There are myriad of barriers that

NOTE Confidence: 0.813578638636364  
00:37:36.170 --> 00:37:37.475 preclude early identification.  
NOTE Confidence: 0.813578638636364  
00:37:37.480 --> 00:37:39.340 We need to identify adolescents  
NOTE Confidence: 0.813578638636364  
00:37:39.340 --> 00:37:43.808 wherever they are and as risk emerges.  
NOTE Confidence: 0.813578638636364  
00:37:43.810 --> 00:37:45.610 Talked specifically about video games.  
NOTE Confidence: 0.813578638636364  
00:37:45.610 --> 00:37:49.306 I'm interested in all things digital tools.  
NOTE Confidence: 0.813578638636364  
00:37:49.310 --> 00:37:52.278 Phones and a lot of there's a lot  
NOTE Confidence: 0.813578638636364  
00:37:52.278 --> 00:37:55.940 of work on ER and that's ecological  
NOTE Confidence: 0.813578638636364  
00:37:55.940 --> 00:37:58.882 momentary assessment MMA and so that  
NOTE Confidence: 0.813578638636364  
00:37:58.882 --> 00:38:00.928 there's there's a wide variety of  
NOTE Confidence: 0.813578638636364  
00:38:00.928 --> 00:38:03.662 how we can use digital tools mid  
NOTE Confidence: 0.813578638636364  
00:38:03.662 --> 00:38:06.072 adolescence where they are social  
NOTE Confidence: 0.813578638636364  
00:38:06.072 --> 00:38:08.828 media for example I was I was I was  
NOTE Confidence: 0.813578638636364  
00:38:08.828 --> 00:38:10.447 trying this I was looking yesterday  
NOTE Confidence: 0.813578638636364  
00:38:10.447 --> 00:38:13.183 as I was preparing and Googling on on  
NOTE Confidence: 0.813578638636364  
00:38:13.251 --> 00:38:15.339 Google like self harm and immediately  
NOTE Confidence: 0.813578638636364

00:38:15.339 --> 00:38:17.622 I Google self harm like the 1st  
NOTE Confidence: 0.813578638636364

00:38:17.622 --> 00:38:19.680 988 if you you know like there's.  
NOTE Confidence: 0.813578638636364

00:38:19.680 --> 00:38:20.584 Regarding working,  
NOTE Confidence: 0.813578638636364

00:38:20.584 --> 00:38:24.364 that is trying to like identify risk and  
NOTE Confidence: 0.813578638636364

00:38:24.364 --> 00:38:27.556 trying to like deliver an intervention.  
NOTE Confidence: 0.813578638636364

00:38:27.560 --> 00:38:28.576 And so I think,  
NOTE Confidence: 0.813578638636364

00:38:28.576 --> 00:38:31.085 you know we need to be thinking about  
NOTE Confidence: 0.813578638636364

00:38:31.085 --> 00:38:33.781 all of these different strategies have  
NOTE Confidence: 0.813578638636364

00:38:33.781 --> 00:38:36.588 I think ideally have a systemic model.  
NOTE Confidence: 0.813578638636364

00:38:36.590 --> 00:38:37.718 And umm,  
NOTE Confidence: 0.813578638636364

00:38:37.718 --> 00:38:41.666 and refine the ones like there's some.  
NOTE Confidence: 0.813578638636364

00:38:41.670 --> 00:38:43.866 I think there's a lot of work to do  
NOTE Confidence: 0.813578638636364

00:38:43.866 --> 00:38:46.106 to refine the use of video games,  
NOTE Confidence: 0.813578638636364

00:38:46.110 --> 00:38:48.660 refine the use of the electronic  
NOTE Confidence: 0.813578638636364

00:38:48.660 --> 00:38:49.510 health record.  
NOTE Confidence: 0.813578638636364

00:38:49.510 --> 00:38:51.466 So there's more research to be

NOTE Confidence: 0.813578638636364

00:38:51.466 --> 00:38:53.210 done in refining these tools.

NOTE Confidence: 0.813578638636364

00:38:53.210 --> 00:38:54.334 And ultimately we want,

NOTE Confidence: 0.813578638636364

00:38:54.334 --> 00:38:55.739 we want the adolescents to

NOTE Confidence: 0.813578638636364

00:38:55.739 --> 00:38:56.790 live healthy lives.

NOTE Confidence: 0.813578638636364

00:38:56.790 --> 00:38:58.790 We want them to live highly functional lives.

NOTE Confidence: 0.813578638636364

00:38:58.790 --> 00:38:59.640 And yeah,

NOTE Confidence: 0.813578638636364

00:38:59.640 --> 00:39:03.930 whatever we can do to make that a reality.

NOTE Confidence: 0.813578638636364

00:39:03.930 --> 00:39:07.250 So is all about. So thank you.

NOTE Confidence: 0.813578638636364

00:39:07.250 --> 00:39:08.490 I will.

NOTE Confidence: 0.748868325714286

00:39:12.130 --> 00:39:13.645 My family patients,

NOTE Confidence: 0.748868325714286

00:39:13.645 --> 00:39:15.665 study participants by mentors,

NOTE Confidence: 0.748868325714286

00:39:15.670 --> 00:39:16.612 collaborators, funders,

NOTE Confidence: 0.748868325714286

00:39:16.612 --> 00:39:19.909 members of the play to prevent lab.

NOTE Confidence: 0.748868325714286

00:39:19.910 --> 00:39:22.857 Shout out to Jenny and Fiza who

NOTE Confidence: 0.748868325714286

00:39:22.857 --> 00:39:25.649 keep the wheels running and yes,

NOTE Confidence: 0.748868325714286

00:39:25.650 --> 00:39:26.748 I'll take questions.  
NOTE Confidence: 0.91373885

00:39:32.810 --> 00:39:33.300 Yes.  
NOTE Confidence: 0.28818858

00:39:35.540 --> 00:39:35.890 Stolen.  
NOTE Confidence: 0.795834826

00:39:45.920 --> 00:39:47.580 Richard, thank you so much.  
NOTE Confidence: 0.795834826

00:39:47.580 --> 00:39:50.170 So as a CL psychologist, I'm absolutely  
NOTE Confidence: 0.896082448666667

00:39:50.180 --> 00:39:51.900 thrilled by this study where  
NOTE Confidence: 0.896082448666667

00:39:51.900 --> 00:39:53.620 you're looking at the electronic  
NOTE Confidence: 0.896082448666667

00:39:53.678 --> 00:39:57.160 health record in primary care. So  
NOTE Confidence: 0.8848735

00:39:57.160 --> 00:40:00.820 that is an overwhelmingly rich  
NOTE Confidence: 0.8848735

00:40:00.820 --> 00:40:02.770 source of data, everything from,  
NOTE Confidence: 0.8848735

00:40:02.770 --> 00:40:04.936 you know, social workers notes  
NOTE Confidence: 0.8848735

00:40:04.936 --> 00:40:06.680 to the standardized instruments  
NOTE Confidence: 0.8848735

00:40:06.680 --> 00:40:09.660 that are being used at Fairhaven.  
NOTE Confidence: 0.8848735

00:40:09.660 --> 00:40:12.495 Do you have a sense of in that vast  
NOTE Confidence: 0.8848735

00:40:12.495 --> 00:40:15.649 data set which initially are going to be  
NOTE Confidence: 0.94945115

00:40:15.660 --> 00:40:17.570 part of your first pass

NOTE Confidence: 0.857170174545455

00:40:17.900 --> 00:40:19.907 because we know that at Fair Haven they are

NOTE Confidence: 0.857170174545455

00:40:19.907 --> 00:40:21.798 using standardized measures of depression,

NOTE Confidence: 0.857170174545455

00:40:21.800 --> 00:40:25.160 anxiety, suicide risk, social work notes.

NOTE Confidence: 0.857170174545455

00:40:25.160 --> 00:40:27.824 So I'm wondering how you're prioritizing

NOTE Confidence: 0.857170174545455

00:40:27.824 --> 00:40:31.528 that vast data in terms of your first pass.

NOTE Confidence: 0.857170174545455

00:40:31.530 --> 00:40:33.746 Are you using your kind of clinical intuition

NOTE Confidence: 0.857170174545455

00:40:33.746 --> 00:40:35.710 of what's because you're a clinician,

NOTE Confidence: 0.857170174545455

00:40:35.710 --> 00:40:37.358 you're amazing clinician of

NOTE Confidence: 0.857170174545455

00:40:37.358 --> 00:40:39.418 what's most likely to result?

NOTE Confidence: 0.857170174545455

00:40:39.420 --> 00:40:41.730 In that higher yield, right, right.

NOTE Confidence: 0.857170174545455

00:40:41.730 --> 00:40:44.130 I do, yes, we're using the,

NOTE Confidence: 0.857170174545455

00:40:44.130 --> 00:40:46.530 we're using the scales validated skills.

NOTE Confidence: 0.857170174545455

00:40:46.530 --> 00:40:50.110 So they use craft to identify, to identify,

NOTE Confidence: 0.857170174545455

00:40:50.110 --> 00:40:52.380 to identify the outcome as you know,

NOTE Confidence: 0.857170174545455

00:40:52.380 --> 00:40:53.670 as an outcome for prediction,

NOTE Confidence: 0.857170174545455

00:40:53.670 --> 00:40:56.530 like who is misusing substances.  
NOTE Confidence: 0.857170174545455

00:40:56.530 --> 00:40:58.721 But we're also going to use like  
NOTE Confidence: 0.857170174545455

00:40:58.721 --> 00:41:00.738 all primary care notes, I find.  
NOTE Confidence: 0.857170174545455

00:41:00.738 --> 00:41:02.936 I think the notes are more something  
NOTE Confidence: 0.857170174545455

00:41:02.936 --> 00:41:05.659 I find like the notes are more  
NOTE Confidence: 0.857170174545455

00:41:05.659 --> 00:41:07.091 informative about presenting complaints.  
NOTE Confidence: 0.857170174545455

00:41:07.091 --> 00:41:09.520 Sometimes you don't use the problem lists.  
NOTE Confidence: 0.857170174545455

00:41:09.520 --> 00:41:09.830 Umm.  
NOTE Confidence: 0.857170174545455

00:41:09.830 --> 00:41:12.310 But we're also going to use the problem  
NOTE Confidence: 0.857170174545455

00:41:12.310 --> 00:41:14.938 lists and then we're going to use similar  
NOTE Confidence: 0.857170174545455

00:41:14.938 --> 00:41:17.532 things that have been used in different  
NOTE Confidence: 0.857170174545455

00:41:17.532 --> 00:41:19.872 studies like vital signs and encounters.  
NOTE Confidence: 0.857170174545455

00:41:19.880 --> 00:41:22.856 I mean encounters they had in a year,  
NOTE Confidence: 0.857170174545455

00:41:22.860 --> 00:41:24.150 did they go to the Ed,  
NOTE Confidence: 0.857170174545455

00:41:24.150 --> 00:41:26.016 what did they go to the  
NOTE Confidence: 0.857170174545455

00:41:26.016 --> 00:41:27.230 Ed for inpatient visits.



NOTE Confidence: 0.857170174545455  
00:41:27.230 --> 00:41:29.969 So we're going to be using all of those  
NOTE Confidence: 0.857170174545455  
00:41:29.969 --> 00:41:32.160 and those are going to definitely be  
NOTE Confidence: 0.857170174545455  
00:41:32.160 --> 00:41:34.178 informed by our clinical knowledge.  
NOTE Confidence: 0.857170174545455  
00:41:34.180 --> 00:41:36.567 But also you know the I think  
NOTE Confidence: 0.857170174545455  
00:41:36.567 --> 00:41:38.780 the the thing about that is.  
NOTE Confidence: 0.857170174545455  
00:41:38.780 --> 00:41:41.090 Useful about machine learning is that  
NOTE Confidence: 0.857170174545455  
00:41:41.090 --> 00:41:44.020 it's at its nature is exploratory and  
NOTE Confidence: 0.857170174545455  
00:41:44.020 --> 00:41:46.660 hypothesis generating and so informed by  
NOTE Confidence: 0.857170174545455  
00:41:46.660 --> 00:41:49.475 that you also want to like get all that  
NOTE Confidence: 0.857170174545455  
00:41:49.475 --> 00:41:55.298 you can get because you can learn you.  
NOTE Confidence: 0.857170174545455  
00:41:55.300 --> 00:41:58.072 On the one hand you can your your clinical  
NOTE Confidence: 0.857170174545455  
00:41:58.072 --> 00:42:00.106 knowledge informs hypothesis which are  
NOTE Confidence: 0.857170174545455  
00:42:00.106 --> 00:42:02.596 already existing and you're testing them.  
NOTE Confidence: 0.857170174545455  
00:42:02.600 --> 00:42:04.413 But also there may be things that  
NOTE Confidence: 0.857170174545455  
00:42:04.413 --> 00:42:05.826 you haven't thought about that  
NOTE Confidence: 0.857170174545455

00:42:05.826 --> 00:42:07.271 the machine learning helps you  
NOTE Confidence: 0.857170174545455

00:42:07.271 --> 00:42:08.729 generate or think about them.  
NOTE Confidence: 0.857170174545455

00:42:08.730 --> 00:42:09.870 Um, that we.  
NOTE Confidence: 0.857170174545455

00:42:09.870 --> 00:42:11.010 So we're balancing,  
NOTE Confidence: 0.857170174545455

00:42:11.010 --> 00:42:12.990 we're balancing those and we'll  
NOTE Confidence: 0.857170174545455

00:42:12.990 --> 00:42:14.970 be collecting as much information  
NOTE Confidence: 0.857170174545455

00:42:15.038 --> 00:42:16.318 as we have access to.  
NOTE Confidence: 0.857170174545455

00:42:16.320 --> 00:42:16.670 Yeah.  
NOTE Confidence: 0.742048941666667

00:42:23.290 --> 00:42:26.510 That was great Bouche and and you  
NOTE Confidence: 0.742048941666667

00:42:26.510 --> 00:42:28.750 know it's such a huge problem that  
NOTE Confidence: 0.742048941666667

00:42:28.750 --> 00:42:31.010 that we really wish you success  
NOTE Confidence: 0.742048941666667

00:42:31.010 --> 00:42:32.950 because it's it's so important.  
NOTE Confidence: 0.742048941666667

00:42:32.950 --> 00:42:35.239 So I was wondering what you thought  
NOTE Confidence: 0.742048941666667

00:42:35.239 --> 00:42:37.820 about kind of what the factors are  
NOTE Confidence: 0.742048941666667

00:42:37.820 --> 00:42:40.106 the skills are that help adolescents  
NOTE Confidence: 0.742048941666667

00:42:40.110 --> 00:42:42.171 you know say no to drugs or or or

NOTE Confidence: 0.742048941666667  
00:42:42.171 --> 00:42:44.386 or lessen their use and and we  
NOTE Confidence: 0.742048941666667  
00:42:44.386 --> 00:42:46.430 know that fear doesn't work right.  
NOTE Confidence: 0.742048941666667  
00:42:46.430 --> 00:42:47.702 That's been tested forever  
NOTE Confidence: 0.742048941666667  
00:42:47.702 --> 00:42:48.974 that that doesn't work.  
NOTE Confidence: 0.742048941666667  
00:42:48.980 --> 00:42:51.581 But is it I'm stuck with this is it  
NOTE Confidence: 0.742048941666667  
00:42:51.581 --> 00:42:54.520 like learning things or is it just  
NOTE Confidence: 0.742048941666667  
00:42:54.520 --> 00:42:57.445 peer group influence and and you know  
NOTE Confidence: 0.742048941666667  
00:42:57.445 --> 00:43:00.406 are there really things we could teach  
NOTE Confidence: 0.742048941666667  
00:43:00.406 --> 00:43:03.133 that get kids to you know that you  
NOTE Confidence: 0.742048941666667  
00:43:03.133 --> 00:43:05.498 could teach on a game or is it the  
NOTE Confidence: 0.742048941666667  
00:43:05.498 --> 00:43:07.248 way we get them to think differently  
NOTE Confidence: 0.742048941666667  
00:43:07.248 --> 00:43:09.308 after they're playing the game?  
NOTE Confidence: 0.742048941666667  
00:43:09.310 --> 00:43:11.294 I'm, I'm I'm just interested in what you  
NOTE Confidence: 0.742048941666667  
00:43:11.294 --> 00:43:13.219 what you think you're going to find.  
NOTE Confidence: 0.911626022142857  
00:43:14.840 --> 00:43:17.392 So I think that based on based on  
NOTE Confidence: 0.911626022142857

00:43:17.392 --> 00:43:19.457 other studies that have been done,  
NOTE Confidence: 0.911626022142857

00:43:19.460 --> 00:43:21.679 I think that you can one, you can model,  
NOTE Confidence: 0.911626022142857

00:43:21.679 --> 00:43:23.940 you can model behavior in like the  
NOTE Confidence: 0.911626022142857

00:43:24.006 --> 00:43:26.548 same ways that you expect, you know,  
NOTE Confidence: 0.911626022142857

00:43:26.548 --> 00:43:28.618 adults, parents to model behavior.  
NOTE Confidence: 0.911626022142857

00:43:28.620 --> 00:43:30.566 You can model those behaviors in game,  
NOTE Confidence: 0.911626022142857

00:43:30.570 --> 00:43:33.506 in games. You can also teach within the  
NOTE Confidence: 0.911626022142857

00:43:33.506 --> 00:43:36.436 game because they like in the mining games,  
NOTE Confidence: 0.911626022142857

00:43:36.440 --> 00:43:38.320 they are practicing skills like  
NOTE Confidence: 0.911626022142857

00:43:38.320 --> 00:43:40.700 they're practicing how do you refuse?  
NOTE Confidence: 0.911626022142857

00:43:40.700 --> 00:43:41.351 Someone says, oh,  
NOTE Confidence: 0.911626022142857

00:43:41.351 --> 00:43:43.260 let's go to like how do you say no,  
NOTE Confidence: 0.911626022142857

00:43:43.260 --> 00:43:45.270 what things can you say?  
NOTE Confidence: 0.911626022142857

00:43:45.270 --> 00:43:48.160 Um to to circumvent this.  
NOTE Confidence: 0.911626022142857

00:43:48.160 --> 00:43:49.550 Um, sometimes you may not  
NOTE Confidence: 0.911626022142857

00:43:49.550 --> 00:43:51.440 succeed and if you don't succeed,

NOTE Confidence: 0.911626022142857  
00:43:51.440 --> 00:43:52.852 what are the consequences?  
NOTE Confidence: 0.911626022142857  
00:43:52.852 --> 00:43:56.019 And the idea is that if you're if  
NOTE Confidence: 0.911626022142857  
00:43:56.019 --> 00:43:57.967 you're engaging your cognitive  
NOTE Confidence: 0.911626022142857  
00:43:57.967 --> 00:44:00.374 processes in practicing this in  
NOTE Confidence: 0.911626022142857  
00:44:00.374 --> 00:44:01.898 within the veteran environment  
NOTE Confidence: 0.911626022142857  
00:44:01.898 --> 00:44:04.350 that you may be able to translate,  
NOTE Confidence: 0.911626022142857  
00:44:04.350 --> 00:44:06.240 depending you may be able to translate  
NOTE Confidence: 0.911626022142857  
00:44:06.240 --> 00:44:08.409 that you will translate this into real life.  
NOTE Confidence: 0.911626022142857  
00:44:08.410 --> 00:44:09.940 But I think also there's the  
NOTE Confidence: 0.911626022142857  
00:44:09.940 --> 00:44:10.705 part about habit,  
NOTE Confidence: 0.911626022142857  
00:44:10.710 --> 00:44:12.348 like the dose like how much,  
NOTE Confidence: 0.911626022142857  
00:44:12.350 --> 00:44:15.620 how much practice are they getting?  
NOTE Confidence: 0.911626022142857  
00:44:15.620 --> 00:44:17.559 Similarly to how I might learn math,  
NOTE Confidence: 0.911626022142857  
00:44:17.560 --> 00:44:17.988 for example.  
NOTE Confidence: 0.911626022142857  
00:44:17.988 --> 00:44:20.038 Like if I if I did more of the  
NOTE Confidence: 0.911626022142857

00:44:20.038 --> 00:44:21.138 work of problem sets,  
NOTE Confidence: 0.911626022142857

00:44:21.140 --> 00:44:22.869 then the likelihood that I would know  
NOTE Confidence: 0.911626022142857

00:44:22.869 --> 00:44:25.023 what to do if I'm presented with a  
NOTE Confidence: 0.911626022142857

00:44:25.023 --> 00:44:26.700 different problem set will be high.  
NOTE Confidence: 0.911626022142857

00:44:26.700 --> 00:44:29.036 So how much? How much dose is enough?  
NOTE Confidence: 0.911626022142857

00:44:29.040 --> 00:44:30.180 How much dose translates to  
NOTE Confidence: 0.911626022142857

00:44:30.180 --> 00:44:31.092 a lowering your risk,  
NOTE Confidence: 0.911626022142857

00:44:31.100 --> 00:44:33.332 how much of that then translates to the  
NOTE Confidence: 0.911626022142857

00:44:33.332 --> 00:44:35.918 idea to the fact that these adults and  
NOTE Confidence: 0.911626022142857

00:44:35.918 --> 00:44:38.240 might then practice this in in real life.  
NOTE Confidence: 0.911626022142857

00:44:38.240 --> 00:44:39.788 But also there's also,  
NOTE Confidence: 0.911626022142857

00:44:39.788 --> 00:44:43.221 I think he also alludes to a a big  
NOTE Confidence: 0.911626022142857

00:44:43.221 --> 00:44:45.273 the issue of like this culture.  
NOTE Confidence: 0.911626022142857

00:44:45.280 --> 00:44:47.695 Because there's a huge influence of culture,  
NOTE Confidence: 0.911626022142857

00:44:47.700 --> 00:44:49.730 so you may learn all of this,  
NOTE Confidence: 0.911626022142857

00:44:49.730 --> 00:44:53.447 but like the stigma that's peer like.

NOTE Confidence: 0.911626022142857  
00:44:53.450 --> 00:44:56.124 I might confident enough that I can  
NOTE Confidence: 0.911626022142857  
00:44:56.124 --> 00:44:58.727 do that within all of the scenarios  
NOTE Confidence: 0.911626022142857  
00:44:58.727 --> 00:45:02.181 and we in view and raise the level of  
NOTE Confidence: 0.911626022142857  
00:45:02.181 --> 00:45:04.514 confidence within the games to then  
NOTE Confidence: 0.911626022142857  
00:45:04.514 --> 00:45:06.266 ensure that they can also translate  
NOTE Confidence: 0.911626022142857  
00:45:06.266 --> 00:45:08.129 this when there's high pressure.  
NOTE Confidence: 0.911626022142857  
00:45:08.130 --> 00:45:09.585 That's something that's I think  
NOTE Confidence: 0.911626022142857  
00:45:09.585 --> 00:45:11.290 that's something we need to test  
NOTE Confidence: 0.911626022142857  
00:45:11.290 --> 00:45:14.040 because indeed it is complex, I agree.  
NOTE Confidence: 0.44069797  
00:45:16.370 --> 00:45:18.610 Hi, nice talk.  
NOTE Confidence: 0.44069797  
00:45:18.610 --> 00:45:20.596 I had a couple clarifying questions  
NOTE Confidence: 0.44069797  
00:45:20.596 --> 00:45:24.530 about the study about the game, so.  
NOTE Confidence: 0.44069797  
00:45:24.530 --> 00:45:27.326 Can you explain again how you  
NOTE Confidence: 0.44069797  
00:45:27.326 --> 00:45:29.190 classified whether they were  
NOTE Confidence: 0.44069797  
00:45:29.190 --> 00:45:30.598 classified as using substances?  
NOTE Confidence: 0.44069797

00:45:30.598 --> 00:45:33.186 Did you say it was one time  
NOTE Confidence: 0.44069797

00:45:33.186 --> 00:45:35.160 using one cigarette? No, no, no.  
NOTE Confidence: 0.44069797

00:45:35.160 --> 00:45:36.410 I there were many questions.  
NOTE Confidence: 0.44069797

00:45:36.410 --> 00:45:38.460 There were twenty questions one  
NOTE Confidence: 0.44069797

00:45:38.460 --> 00:45:40.510 and and it included cigarettes,  
NOTE Confidence: 0.44069797

00:45:40.510 --> 00:45:43.821 alcohol and drugs and it included ever  
NOTE Confidence: 0.44069797

00:45:43.821 --> 00:45:47.146 used and also past 30 days of use.  
NOTE Confidence: 0.44069797

00:45:47.150 --> 00:45:49.058 OK. Yeah. And all of those.  
NOTE Confidence: 0.44069797

00:45:49.060 --> 00:45:51.492 So the, it was such a low risk  
NOTE Confidence: 0.44069797

00:45:51.492 --> 00:45:52.964 sample that all the all those  
NOTE Confidence: 0.44069797

00:45:52.964 --> 00:45:54.908 who said no for all of them were  
NOTE Confidence: 0.44069797

00:45:54.908 --> 00:45:56.660 essentially in the low risk group  
NOTE Confidence: 0.44069797

00:45:56.660 --> 00:45:58.347 and anyone who endorsed any of  
NOTE Confidence: 0.44069797

00:45:58.347 --> 00:46:00.194 that went into the high risk group,  
NOTE Confidence: 0.44069797

00:46:00.194 --> 00:46:01.898 which yeah which is why we're  
NOTE Confidence: 0.44069797

00:46:01.898 --> 00:46:04.169 going to do it more with the pilot.



NOTE Confidence: 0.44069797

00:46:04.170 --> 00:46:06.154 We're going to have a more high risk

NOTE Confidence: 0.44069797

00:46:06.154 --> 00:46:08.058 sample like everyone will be misusing

NOTE Confidence: 0.44069797

00:46:08.058 --> 00:46:10.080 substances at some degree of frequency.

NOTE Confidence: 0.44069797

00:46:10.080 --> 00:46:12.060 And are you thinking of because

NOTE Confidence: 0.44069797

00:46:12.060 --> 00:46:13.994 I also was thinking about the

NOTE Confidence: 0.44069797

00:46:13.994 --> 00:46:15.905 age range from 11 to 14 but.

NOTE Confidence: 0.44069797

00:46:15.910 --> 00:46:17.314 Yes there are some kids that

NOTE Confidence: 0.44069797

00:46:17.314 --> 00:46:18.834 are starting to use that young

NOTE Confidence: 0.44069797

00:46:18.834 --> 00:46:20.418 unfortunately more all the time but

NOTE Confidence: 0.44069797

00:46:20.418 --> 00:46:22.241 I think that they'll start you know

NOTE Confidence: 0.44069797

00:46:22.241 --> 00:46:24.062 there are a whole group of kids

NOTE Confidence: 0.44069797

00:46:24.062 --> 00:46:25.778 that don't start until they get

NOTE Confidence: 0.44069797

00:46:25.778 --> 00:46:27.718 to high school and that's really

NOTE Confidence: 0.44069797

00:46:27.718 --> 00:46:29.434 when it when there's more risk.

NOTE Confidence: 0.44069797

00:46:29.434 --> 00:46:31.341 So I just wondered if you're thinking

NOTE Confidence: 0.44069797

00:46:31.341 --> 00:46:33.133 of going up a little little higher  
NOTE Confidence: 0.44069797

00:46:33.133 --> 00:46:34.988 in the age range we are so the  
NOTE Confidence: 0.44069797

00:46:34.988 --> 00:46:36.642 pilots is going to be between 14  
NOTE Confidence: 0.44069797

00:46:36.642 --> 00:46:38.801 to 15 year olds and we wanted to  
NOTE Confidence: 0.44069797

00:46:38.801 --> 00:46:40.481 be careful not to you know we're  
NOTE Confidence: 0.44069797

00:46:40.481 --> 00:46:43.048 I I showed how age can in the age  
NOTE Confidence: 0.44069797

00:46:43.048 --> 00:46:44.655 can influence how they perform in  
NOTE Confidence: 0.44069797

00:46:44.655 --> 00:46:46.370 the game and such that if it's.  
NOTE Confidence: 0.44069797

00:46:46.370 --> 00:46:47.300 If you're using older kids,  
NOTE Confidence: 0.44069797

00:46:47.300 --> 00:46:49.099 gonna be so easy that you're really  
NOTE Confidence: 0.44069797

00:46:49.099 --> 00:46:50.650 not getting at the processes.  
NOTE Confidence: 0.44069797

00:46:50.650 --> 00:46:52.754 And so we're we're looking at 14 to  
NOTE Confidence: 0.44069797

00:46:52.754 --> 00:46:54.614 15 also because of the feasibility  
NOTE Confidence: 0.44069797

00:46:54.614 --> 00:46:56.838 like you can at least get all  
NOTE Confidence: 0.44069797

00:46:56.838 --> 00:46:58.356 of them in a high school,  
NOTE Confidence: 0.44069797

00:46:58.360 --> 00:47:00.196 but they would be high school

NOTE Confidence: 0.44069797

00:47:00.196 --> 00:47:02.239 students who are 14 to 15 years.

NOTE Confidence: 0.44069797

00:47:02.240 --> 00:47:03.233 Last question, sorry.

NOTE Confidence: 0.44069797

00:47:03.233 --> 00:47:05.550 I just thought too about the the

NOTE Confidence: 0.44069797

00:47:05.612 --> 00:47:07.880 reasons that kids start to use right,

NOTE Confidence: 0.44069797

00:47:07.880 --> 00:47:08.786 so that we've talked a lot,

NOTE Confidence: 0.44069797

00:47:08.790 --> 00:47:10.080 it sounds like we're talking a

NOTE Confidence: 0.44069797

00:47:10.080 --> 00:47:11.234 lot about the pressures, right,

NOTE Confidence: 0.44069797

00:47:11.234 --> 00:47:12.998 of other in the peer situations,

NOTE Confidence: 0.44069797

00:47:13.000 --> 00:47:15.352 but there are kids that that's not

NOTE Confidence: 0.44069797

00:47:15.352 --> 00:47:17.379 necessarily how or why they start.

NOTE Confidence: 0.44069797

00:47:17.380 --> 00:47:19.452 And so I just wonder if that's

NOTE Confidence: 0.44069797

00:47:19.452 --> 00:47:20.671 something you've thought about

NOTE Confidence: 0.44069797

00:47:20.671 --> 00:47:22.285 in terms of how to integrate?

NOTE Confidence: 0.44069797

00:47:22.290 --> 00:47:24.185 Those sorts of risk questions

NOTE Confidence: 0.44069797

00:47:24.185 --> 00:47:25.701 related to coping strategies

NOTE Confidence: 0.44069797

00:47:25.701 --> 00:47:27.766 or stress levels or you know,  
NOTE Confidence: 0.44069797

00:47:27.770 --> 00:47:29.114 reasons that kids start,  
NOTE Confidence: 0.44069797

00:47:29.114 --> 00:47:29.786 you know,  
NOTE Confidence: 0.44069797

00:47:29.790 --> 00:47:30.830 nipping out of their parents  
NOTE Confidence: 0.44069797

00:47:30.830 --> 00:47:32.310 cabinet at home or stuff like that,  
NOTE Confidence: 0.44069797

00:47:32.310 --> 00:47:34.228 that doesn't have anything to do with  
NOTE Confidence: 0.44069797

00:47:34.228 --> 00:47:36.715 them being at a party or being with friends.  
NOTE Confidence: 0.44069797

00:47:36.720 --> 00:47:37.068 Right.  
NOTE Confidence: 0.44069797

00:47:37.068 --> 00:47:39.852 I think the interventions do all like address  
NOTE Confidence: 0.44069797

00:47:39.852 --> 00:47:42.647 a lot of the different risk situations.  
NOTE Confidence: 0.44069797

00:47:42.650 --> 00:47:43.192 We just,  
NOTE Confidence: 0.44069797

00:47:43.192 --> 00:47:43.463 yeah,  
NOTE Confidence: 0.44069797

00:47:43.463 --> 00:47:45.089 this was just a sample of,  
NOTE Confidence: 0.44069797

00:47:45.090 --> 00:47:46.320 but intervention interventions  
NOTE Confidence: 0.44069797

00:47:46.320 --> 00:47:49.190 usually address a wide range of of  
NOTE Confidence: 0.785438077222222

00:47:49.254 --> 00:47:50.989 risk and influence by like

NOTE Confidence: 0.785438077222222

00:47:50.989 --> 00:47:52.381 focus groups that make.

NOTE Confidence: 0.785438077222222

00:47:52.381 --> 00:47:54.136 The game story lines more

NOTE Confidence: 0.785438077222222

00:47:54.136 --> 00:47:55.540 reflective of their own

NOTE Confidence: 0.785438077222222

00:47:55.612 --> 00:47:57.688 experiences, but yes, agreed.

NOTE Confidence: 0.767302736666667

00:48:00.680 --> 00:48:04.703 Sort of PBA on two of the previous questions.

NOTE Confidence: 0.767302736666667

00:48:04.710 --> 00:48:08.122 This is a very important initiative for

NOTE Confidence: 0.767302736666667

00:48:08.122 --> 00:48:11.016 us to be hearing about those of us who

NOTE Confidence: 0.767302736666667

00:48:11.016 --> 00:48:12.744 have been around and been struggling

NOTE Confidence: 0.767302736666667

00:48:12.744 --> 00:48:14.910 with this issue for 50 years or more.

NOTE Confidence: 0.767302736666667

00:48:14.910 --> 00:48:17.994 It's easy to get very habituated

NOTE Confidence: 0.767302736666667

00:48:17.994 --> 00:48:20.572 to the discouraging components of

NOTE Confidence: 0.767302736666667

00:48:20.572 --> 00:48:23.178 how we have failed repeatedly this

NOTE Confidence: 0.767302736666667

00:48:23.178 --> 00:48:25.746 population no matter what we've tried.

NOTE Confidence: 0.767302736666667

00:48:25.750 --> 00:48:28.487 So the the fresh creativity that you

NOTE Confidence: 0.767302736666667

00:48:28.487 --> 00:48:31.464 bring to this is extremely welcome and

NOTE Confidence: 0.767302736666667

00:48:31.464 --> 00:48:34.600 don't let anybody talk you out of it.  
NOTE Confidence: 0.767302736666667

00:48:34.600 --> 00:48:36.766 And one of the questions that  
NOTE Confidence: 0.767302736666667

00:48:36.766 --> 00:48:39.320 I'm raised in my mind is that.  
NOTE Confidence: 0.767302736666667

00:48:39.320 --> 00:48:41.288 I think some of the best.  
NOTE Confidence: 0.885127934615384

00:48:43.650 --> 00:48:46.205 Diagnostic work about substance abuse  
NOTE Confidence: 0.885127934615384

00:48:46.205 --> 00:48:50.088 in this age group is done by peers.  
NOTE Confidence: 0.885127934615384

00:48:50.090 --> 00:48:52.138 They're often extraordinarily accurate  
NOTE Confidence: 0.885127934615384

00:48:52.138 --> 00:48:55.210 talking about their friends and talking  
NOTE Confidence: 0.885127934615384

00:48:55.279 --> 00:48:57.708 about what they see in their friends,  
NOTE Confidence: 0.885127934615384

00:48:57.710 --> 00:49:00.422 and I wondered if you have a multiplayer  
NOTE Confidence: 0.885127934615384

00:49:00.422 --> 00:49:03.335 game in your future where you could expose  
NOTE Confidence: 0.885127934615384

00:49:03.335 --> 00:49:06.620 this to a larger group of problem solvers.  
NOTE Confidence: 0.796521581666667

00:49:07.980 --> 00:49:10.596 Love to I would love to. Yes.  
NOTE Confidence: 0.796521581666667

00:49:10.596 --> 00:49:13.026 Um, multiplayer family based games.  
NOTE Confidence: 0.796521581666667

00:49:13.030 --> 00:49:15.739 Yes. Yes I think I I think we should  
NOTE Confidence: 0.796521581666667

00:49:15.739 --> 00:49:18.828 be meeting adolescence where they are.

NOTE Confidence: 0.796521581666667  
00:49:18.830 --> 00:49:20.114 We should, it should be informed  
NOTE Confidence: 0.796521581666667  
00:49:20.114 --> 00:49:21.509 by what we know about risk.  
NOTE Confidence: 0.796521581666667  
00:49:21.510 --> 00:49:23.729 I think we should use multi modality.  
NOTE Confidence: 0.796521581666667  
00:49:23.730 --> 00:49:26.398 And yes, absolutely curious.  
NOTE Confidence: 0.862064633333333  
00:49:28.420 --> 00:49:33.044 We have a. Sure. Kim,  
NOTE Confidence: 0.862064633333333  
00:49:33.044 --> 00:49:34.968 can you hear us? Can you unmute?  
NOTE Confidence: 0.79006787875  
00:49:37.570 --> 00:49:43.714 Hi, uchi. I have a question for you.  
NOTE Confidence: 0.79006787875  
00:49:43.720 --> 00:49:45.275 I was really interested what  
NOTE Confidence: 0.79006787875  
00:49:45.275 --> 00:49:47.060 you were saying about like uh,  
NOTE Confidence: 0.79006787875  
00:49:47.060 --> 00:49:48.494 it was really fascinating that you  
NOTE Confidence: 0.79006787875  
00:49:48.494 --> 00:49:50.126 were able to pick about apart a  
NOTE Confidence: 0.79006787875  
00:49:50.126 --> 00:49:51.575 lot of this by kind of thinking  
NOTE Confidence: 0.79006787875  
00:49:51.627 --> 00:49:53.272 through how kids need to adjust to  
NOTE Confidence: 0.79006787875  
00:49:53.272 --> 00:49:55.240 game play before they, you know,  
NOTE Confidence: 0.79006787875  
00:49:55.240 --> 00:49:57.340 thinking about how those biomarkers  
NOTE Confidence: 0.79006787875

00:49:57.340 --> 00:50:00.035 might be relevant to kind of address  
NOTE Confidence: 0.79006787875

00:50:00.035 --> 00:50:02.800 you know or identify at risk players.  
NOTE Confidence: 0.79006787875

00:50:02.800 --> 00:50:04.738 So I'm curious your thoughts when  
NOTE Confidence: 0.79006787875

00:50:04.738 --> 00:50:07.602 you have like if you have a brief  
NOTE Confidence: 0.79006787875

00:50:07.602 --> 00:50:09.885 intervention like a brief one or  
NOTE Confidence: 0.79006787875

00:50:09.885 --> 00:50:11.790 two hour game based intervention,  
NOTE Confidence: 0.79006787875

00:50:11.790 --> 00:50:14.464 how you might get over that barrier?  
NOTE Confidence: 0.79006787875

00:50:14.470 --> 00:50:16.318 Um, do you in terms of like collecting  
NOTE Confidence: 0.79006787875

00:50:16.318 --> 00:50:18.434 data to try to kind of gather that  
NOTE Confidence: 0.79006787875

00:50:18.434 --> 00:50:19.860 information around at risk youth,  
NOTE Confidence: 0.79006787875

00:50:19.860 --> 00:50:20.860 are you suggesting that?  
NOTE Confidence: 0.79006787875

00:50:20.860 --> 00:50:23.182 It may not be a good idea to look  
NOTE Confidence: 0.79006787875

00:50:23.182 --> 00:50:24.967 at that early game play and maybe  
NOTE Confidence: 0.79006787875

00:50:25.030 --> 00:50:26.698 looking like at the full game  
NOTE Confidence: 0.79006787875

00:50:26.698 --> 00:50:28.022 plays to change over time.  
NOTE Confidence: 0.79006787875

00:50:28.022 --> 00:50:29.506 Or are you or are you thinking



NOTE Confidence: 0.79006787875

00:50:29.506 --> 00:50:31.284 it may be more valuable to look

NOTE Confidence: 0.79006787875

00:50:31.284 --> 00:50:32.931 after somebody kind of salad and

NOTE Confidence: 0.79006787875

00:50:32.931 --> 00:50:34.671 learn the ropes and gotten through

NOTE Confidence: 0.79006787875

00:50:34.671 --> 00:50:37.479 several levels later in the game?

NOTE Confidence: 0.79006787875

00:50:37.480 --> 00:50:39.232 I I think we should look at all

NOTE Confidence: 0.79006787875

00:50:39.232 --> 00:50:41.100 of it because I I think that.

NOTE Confidence: 0.79006787875

00:50:41.100 --> 00:50:43.599 So one of the questions I'm I'm

NOTE Confidence: 0.79006787875

00:50:43.599 --> 00:50:46.093 wondering about is that is the

NOTE Confidence: 0.79006787875

00:50:46.093 --> 00:50:48.343 difficulty of overcoming that initial

NOTE Confidence: 0.79006787875

00:50:48.343 --> 00:50:50.598 difficulty is that influenced by

NOTE Confidence: 0.79006787875

00:50:50.600 --> 00:50:52.688 difficult you know difficulties

NOTE Confidence: 0.79006787875

00:50:52.688 --> 00:50:54.992 and cognitive processing or is it

NOTE Confidence: 0.79006787875

00:50:54.992 --> 00:50:56.700 just that we're just trying to get.

NOTE Confidence: 0.79006787875

00:50:56.700 --> 00:50:59.760 I'm just trying to learn how this game works.

NOTE Confidence: 0.79006787875

00:50:59.760 --> 00:51:02.224 We haven't really tested if if there's

NOTE Confidence: 0.79006787875

00:51:02.224 --> 00:51:05.768 a difference with that and if they settle,  
NOTE Confidence: 0.79006787875

00:51:05.768 --> 00:51:07.394 if they settle.  
NOTE Confidence: 0.79006787875

00:51:07.400 --> 00:51:08.771 Like is that?  
NOTE Confidence: 0.79006787875

00:51:08.771 --> 00:51:12.148 The rate of settling, is that also  
NOTE Confidence: 0.79006787875

00:51:12.148 --> 00:51:14.504 influenced by baseline cognitive function?  
NOTE Confidence: 0.79006787875

00:51:14.504 --> 00:51:15.710 I don't know.  
NOTE Confidence: 0.79006787875

00:51:15.710 --> 00:51:17.586 I think that those are all questions  
NOTE Confidence: 0.79006787875

00:51:17.586 --> 00:51:19.453 that need to be, need to be,  
NOTE Confidence: 0.79006787875

00:51:19.453 --> 00:51:21.420 and need to be answered for us  
NOTE Confidence: 0.79006787875

00:51:21.493 --> 00:51:22.699 to determine when.  
NOTE Confidence: 0.79006787875

00:51:22.700 --> 00:51:24.764 I do think, though,  
NOTE Confidence: 0.79006787875

00:51:24.764 --> 00:51:26.828 that if learning occurs.  
NOTE Confidence: 0.79006787875

00:51:26.830 --> 00:51:29.146 If learning from the game occurs,  
NOTE Confidence: 0.79006787875

00:51:29.150 --> 00:51:32.468 and it doesn't influence risk like that,  
NOTE Confidence: 0.79006787875

00:51:32.470 --> 00:51:34.854 that that risk doesn't get better as you're  
NOTE Confidence: 0.79006787875

00:51:34.854 --> 00:51:36.766 learning like it's the couple from it,

NOTE Confidence: 0.79006787875

00:51:36.770 --> 00:51:39.346 then it's not a good metric for

NOTE Confidence: 0.79006787875

00:51:39.346 --> 00:51:41.780 measuring risk for substance misuse.

NOTE Confidence: 0.82051761826087

00:51:46.250 --> 00:51:48.329 Thank you, Kim and thank you for

NOTE Confidence: 0.82051761826087

00:51:48.329 --> 00:51:50.190 helping being such a good mentor

NOTE Confidence: 0.82051761826087

00:51:50.190 --> 00:51:52.008 to which we have another question

NOTE Confidence: 0.82051761826087

00:51:52.008 --> 00:51:53.769 from Doctor Christine Emmons.

NOTE Confidence: 0.82051761826087

00:51:53.770 --> 00:51:55.780 Christine and if you

NOTE Confidence: 0.709781158181818

00:51:56.350 --> 00:51:57.898 do you have plans to develop

NOTE Confidence: 0.709781158181818

00:51:57.898 --> 00:51:59.530 games that tag your treatment.

NOTE Confidence: 0.709781158181818

00:51:59.530 --> 00:52:00.244 Oh, sorry about that.

NOTE Confidence: 0.709781158181818

00:52:00.244 --> 00:52:01.084 Christine do you want to

NOTE Confidence: 0.821663515

00:52:01.130 --> 00:52:03.266 ask your question and if you if you.

NOTE Confidence: 0.844032288

00:52:04.840 --> 00:52:07.432 Yes. So my question is do you have

NOTE Confidence: 0.844032288

00:52:07.432 --> 00:52:09.710 any plans to to create games at

NOTE Confidence: 0.848973975

00:52:09.720 --> 00:52:12.588 Target treatment or integrated

NOTE Confidence: 0.848973975

00:52:12.590 --> 00:52:14.450 diagnostics with treatment?

NOTE Confidence: 0.81279898

00:52:15.750 --> 00:52:19.017 Um. I mean, ideally we would have a model,

NOTE Confidence: 0.81279898

00:52:19.020 --> 00:52:21.912 we'll have. Personally,

NOTE Confidence: 0.81279898

00:52:21.912 --> 00:52:25.042 I think about prevention. I do.

NOTE Confidence: 0.81279898

00:52:25.042 --> 00:52:26.589 But but if we think about the

NOTE Confidence: 0.81279898

00:52:26.589 --> 00:52:27.898 problem of substance misuse,

NOTE Confidence: 0.81279898

00:52:27.900 --> 00:52:29.724 we should all be thinking about

NOTE Confidence: 0.81279898

00:52:29.724 --> 00:52:31.620 how we also target treatment,

NOTE Confidence: 0.81279898

00:52:31.620 --> 00:52:34.840 and so I think that those are

NOTE Confidence: 0.81279898

00:52:34.840 --> 00:52:35.776 possibilities, especially.

NOTE Confidence: 0.81279898

00:52:35.776 --> 00:52:39.108 If we can, if there's a model,

NOTE Confidence: 0.81279898

00:52:39.110 --> 00:52:40.878 you know my mind,

NOTE Confidence: 0.81279898

00:52:40.878 --> 00:52:43.088 there's a model that funnels

NOTE Confidence: 0.81279898

00:52:43.088 --> 00:52:45.302 appropriately and but we also need

NOTE Confidence: 0.81279898

00:52:45.302 --> 00:52:48.057 you know I also mentioned how self

NOTE Confidence: 0.81279898

00:52:48.057 --> 00:52:50.029 standalone digital interventions may

NOTE Confidence: 0.81279898

00:52:50.029 --> 00:52:52.804 not be very effective for treatments,

NOTE Confidence: 0.81279898

00:52:52.804 --> 00:52:55.186 you know, for a severe substance

NOTE Confidence: 0.81279898

00:52:55.186 --> 00:52:57.030 use disorder and treatments.

NOTE Confidence: 0.81279898

00:52:57.030 --> 00:52:58.968 So I think we need more.

NOTE Confidence: 0.81279898

00:52:58.970 --> 00:53:00.242 Most of the studies that have

NOTE Confidence: 0.81279898

00:53:00.242 --> 00:53:01.953 been done so far are showing that

NOTE Confidence: 0.81279898

00:53:01.953 --> 00:53:03.308 they are useful as adjunctive,

NOTE Confidence: 0.81279898

00:53:03.310 --> 00:53:05.245 especially if you're having like

NOTE Confidence: 0.81279898

00:53:05.245 --> 00:53:07.180 a maybe zoom televideo treatment.

NOTE Confidence: 0.81279898

00:53:07.180 --> 00:53:09.672 And then you have these as perhaps

NOTE Confidence: 0.81279898

00:53:09.672 --> 00:53:11.588 assignments at John Adjunctive that

NOTE Confidence: 0.81279898

00:53:11.588 --> 00:53:14.311 help a person practice some of these

NOTE Confidence: 0.81279898

00:53:14.311 --> 00:53:16.418 skills that we're talking about.

NOTE Confidence: 0.81279898

00:53:16.420 --> 00:53:17.580 So as an adjunctive treatment,

NOTE Confidence: 0.81279898

00:53:17.580 --> 00:53:18.640 I think those are,

NOTE Confidence: 0.81279898

00:53:18.640 --> 00:53:20.661 those are areas where due to interventions

NOTE Confidence: 0.81279898

00:53:20.661 --> 00:53:25.248 can be really high yield, I think, yeah.

NOTE Confidence: 0.81279898

00:53:25.250 --> 00:53:26.530 But of course I'm open.

NOTE Confidence: 0.81279898

00:53:26.530 --> 00:53:28.100 I'm open to a possibility.

NOTE Confidence: 0.828772757777778

00:53:29.950 --> 00:53:31.749 So maybe building on some of the

NOTE Confidence: 0.828772757777778

00:53:31.749 --> 00:53:33.550 comments earlier on and you talked

NOTE Confidence: 0.828772757777778

00:53:33.550 --> 00:53:35.180 about possibly using other digital

NOTE Confidence: 0.828772757777778

00:53:35.180 --> 00:53:36.607 technologies and integrating them

NOTE Confidence: 0.828772757777778

00:53:36.607 --> 00:53:38.407 into your future research program.

NOTE Confidence: 0.828772757777778

00:53:38.410 --> 00:53:40.846 I was very taken by reaching recent

NOTE Confidence: 0.828772757777778

00:53:40.846 --> 00:53:43.240 nature I think biotechnology paper that

NOTE Confidence: 0.828772757777778

00:53:43.240 --> 00:53:46.215 looked at Fitbit data in the context

NOTE Confidence: 0.828772757777778

00:53:46.288 --> 00:53:48.880 of COVID and predicted infection like

NOTE Confidence: 0.828772757777778

00:53:48.880 --> 00:53:51.456 many days before symptom onset and that

NOTE Confidence: 0.828772757777778

00:53:51.456 --> 00:53:53.430 was in a relatively small sample size,

NOTE Confidence: 0.828772757777778

00:53:53.430 --> 00:53:55.488 I think it was around 64 participants.

NOTE Confidence: 0.828772757777778  
00:53:55.490 --> 00:53:58.234 And then the all of US initiative,  
NOTE Confidence: 0.828772757777778  
00:53:58.240 --> 00:53:59.984 you know they're recruiting.  
NOTE Confidence: 0.828772757777778  
00:53:59.984 --> 00:54:00.856 Million people,  
NOTE Confidence: 0.828772757777778  
00:54:00.860 --> 00:54:02.620 but their approach is just to say well  
NOTE Confidence: 0.828772757777778  
00:54:02.620 --> 00:54:04.373 if you have a Fitbit you know will  
NOTE Confidence: 0.828772757777778  
00:54:04.373 --> 00:54:06.098 you allow us to access your data.  
NOTE Confidence: 0.828772757777778  
00:54:06.100 --> 00:54:07.696 So they're not even providing Fitbits,  
NOTE Confidence: 0.828772757777778  
00:54:07.700 --> 00:54:09.380 but they receive the data.  
NOTE Confidence: 0.828772757777778  
00:54:09.380 --> 00:54:11.324 I just wondered if anyone is  
NOTE Confidence: 0.828772757777778  
00:54:11.324 --> 00:54:12.975 integrating wearable tech like Fitbit  
NOTE Confidence: 0.828772757777778  
00:54:12.975 --> 00:54:14.721 data in substance use in adults  
NOTE Confidence: 0.828772757777778  
00:54:14.721 --> 00:54:16.977 and whether or not that might be of  
NOTE Confidence: 0.828772757777778  
00:54:16.977 --> 00:54:18.730 value in in this population as well.  
NOTE Confidence: 0.627673088333333  
00:54:19.000 --> 00:54:20.080 I think I think they're doing.  
NOTE Confidence: 0.627673088333333  
00:54:20.080 --> 00:54:23.377 I think there's actually some research from.  
NOTE Confidence: 0.627673088333333

00:54:23.380 --> 00:54:26.190 Integrating Fitbit or at least  
NOTE Confidence: 0.627673088333333  
00:54:26.190 --> 00:54:29.368 wearable technology, I would love to.  
NOTE Confidence: 0.627673088333333  
00:54:29.368 --> 00:54:33.750 I would love to integrate that especially.  
NOTE Confidence: 0.627673088333333  
00:54:33.750 --> 00:54:35.136 Because you know, one of the ways  
NOTE Confidence: 0.627673088333333  
00:54:35.136 --> 00:54:36.665 I think about it is that if, if,  
NOTE Confidence: 0.627673088333333  
00:54:36.665 --> 00:54:39.025 if there are areas where I think that  
NOTE Confidence: 0.627673088333333  
00:54:39.025 --> 00:54:41.467 where they've used them before in adult  
NOTE Confidence: 0.627673088333333  
00:54:41.467 --> 00:54:43.858 studies is that there are areas that.  
NOTE Confidence: 0.627673088333333  
00:54:43.860 --> 00:54:45.190 For example, if you're close to a  
NOTE Confidence: 0.627673088333333  
00:54:45.190 --> 00:54:46.636 shop where you can buy a vape right,  
NOTE Confidence: 0.627673088333333  
00:54:46.640 --> 00:54:49.560 like and then something will,  
NOTE Confidence: 0.627673088333333  
00:54:49.560 --> 00:54:50.934 you will get a notification that  
NOTE Confidence: 0.627673088333333  
00:54:50.934 --> 00:54:52.619 you're in a place where you might  
NOTE Confidence: 0.627673088333333  
00:54:52.619 --> 00:54:54.053 engage in a high risk behavior.  
NOTE Confidence: 0.627673088333333  
00:54:54.060 --> 00:54:55.648 What might you do?  
NOTE Confidence: 0.627673088333333  
00:54:55.648 --> 00:54:57.914 What resources do you have that



NOTE Confidence: 0.627673088333333  
00:54:57.914 --> 00:54:59.558 you can employ in this moment?  
NOTE Confidence: 0.627673088333333  
00:54:59.560 --> 00:55:02.472 So I would I would love to be  
NOTE Confidence: 0.627673088333333  
00:55:02.472 --> 00:55:05.659 able to integrate the wearable  
NOTE Confidence: 0.627673088333333  
00:55:05.659 --> 00:55:08.020 technology in monitoring.  
NOTE Confidence: 0.627673088333333  
00:55:08.020 --> 00:55:09.562 Kids who are high risk and  
NOTE Confidence: 0.627673088333333  
00:55:09.562 --> 00:55:10.970 thinking about how we might,  
NOTE Confidence: 0.627673088333333  
00:55:10.970 --> 00:55:13.142 how we might measure those, how,  
NOTE Confidence: 0.627673088333333  
00:55:13.142 --> 00:55:17.006 how and what will be most useful  
NOTE Confidence: 0.627673088333333  
00:55:17.010 --> 00:55:19.214 as measures for identifying  
NOTE Confidence: 0.627673088333333  
00:55:19.214 --> 00:55:21.211 who might be struggling,  
NOTE Confidence: 0.627673088333333  
00:55:21.211 --> 00:55:23.257 who is struggling at the moment,  
NOTE Confidence: 0.627673088333333  
00:55:23.260 --> 00:55:25.204 who would be a risk for substance misuse.  
NOTE Confidence: 0.627673088333333  
00:55:25.210 --> 00:55:25.510 Yeah,  
NOTE Confidence: 0.771866755555556  
00:55:25.610 --> 00:55:26.877 and if the kids are bringing their  
NOTE Confidence: 0.771866755555556  
00:55:26.877 --> 00:55:29.124 own Fitbit, it would be quite  
NOTE Confidence: 0.771866755555556

00:55:29.124 --> 00:55:31.438 cost effective. Question from you.  
NOTE Confidence: 0.90848117

00:55:36.720 --> 00:55:37.870 Thank you very much. That  
NOTE Confidence: 0.88376175125

00:55:37.880 --> 00:55:39.395 was terrific presentation  
NOTE Confidence: 0.88376175125

00:55:39.395 --> 00:55:41.920 of of your amazing work.  
NOTE Confidence: 0.88376175125

00:55:41.920 --> 00:55:44.020 I had a weird idea that that I  
NOTE Confidence: 0.88376175125

00:55:44.020 --> 00:55:45.839 don't it's not terribly well formed,  
NOTE Confidence: 0.88376175125

00:55:45.840 --> 00:55:47.100 so I apologize for that.  
NOTE Confidence: 0.88376175125

00:55:47.100 --> 00:55:50.516 But on my mind is the recent CDC  
NOTE Confidence: 0.88376175125

00:55:50.516 --> 00:55:53.180 report about the prevalence of.  
NOTE Confidence: 0.88376175125

00:55:53.180 --> 00:55:55.145 Of anxiety and depression in  
NOTE Confidence: 0.88376175125

00:55:55.145 --> 00:55:57.110 youth in the United States,  
NOTE Confidence: 0.88376175125

00:55:57.110 --> 00:55:58.504 especially amongst.  
NOTE Confidence: 0.88376175125

00:55:58.504 --> 00:56:02.686 Girls and young women and but  
NOTE Confidence: 0.88376175125

00:56:02.690 --> 00:56:04.688 across the board I think really,  
NOTE Confidence: 0.88376175125

00:56:04.690 --> 00:56:08.590 and what occurred to me is that probably  
NOTE Confidence: 0.88376175125

00:56:08.590 --> 00:56:11.482 there's a connection between those

NOTE Confidence: 0.88376175125

00:56:11.482 --> 00:56:14.322 dysphoric experiences and substance use,

NOTE Confidence: 0.88376175125

00:56:14.330 --> 00:56:15.690 I mean, at least broadly.

NOTE Confidence: 0.88376175125

00:56:15.690 --> 00:56:18.470 And I just wondered whether.

NOTE Confidence: 0.88376175125

00:56:18.470 --> 00:56:18.850 You know,

NOTE Confidence: 0.88376175125

00:56:18.850 --> 00:56:20.370 you may not have an answer right now,

NOTE Confidence: 0.88376175125

00:56:20.370 --> 00:56:23.009 but whether in the data you collect,

NOTE Confidence: 0.88376175125

00:56:23.010 --> 00:56:25.524 is there some way of collecting

NOTE Confidence: 0.88376175125

00:56:25.524 --> 00:56:28.959 data about about those dysphoric

NOTE Confidence: 0.88376175125

00:56:28.959 --> 00:56:31.230 experiences at the same time you're

NOTE Confidence: 0.88376175125

00:56:31.230 --> 00:56:32.810 collecting things that might lead

NOTE Confidence: 0.88376175125

00:56:32.870 --> 00:56:34.480 to directly to substance use?

NOTE Confidence: 0.88376175125

00:56:35.370 --> 00:56:37.210 Right.

NOTE Confidence: 0.85604288625

00:56:37.210 --> 00:56:39.010 So with the electronic

NOTE Confidence: 0.85604288625

00:56:39.010 --> 00:56:40.810 health record data data,

NOTE Confidence: 0.85604288625

00:56:40.810 --> 00:56:43.225 we're also going to be looking at

NOTE Confidence: 0.85604288625

00:56:43.230 --> 00:56:47.910 predictions for depression and ID.  
NOTE Confidence: 0.85604288625

00:56:47.910 --> 00:56:49.728 So we, we would look at,  
NOTE Confidence: 0.85604288625

00:56:49.730 --> 00:56:51.599 we would look at any relationships and  
NOTE Confidence: 0.85604288625

00:56:51.599 --> 00:56:53.968 see if those features are also predictive.  
NOTE Confidence: 0.85604288625

00:56:53.970 --> 00:56:55.998 If the features that are predictive  
NOTE Confidence: 0.85604288625

00:56:55.998 --> 00:56:57.707 of substance misuse disorder are  
NOTE Confidence: 0.85604288625

00:56:57.707 --> 00:56:59.513 also the feature same features that  
NOTE Confidence: 0.85604288625

00:56:59.513 --> 00:57:01.369 are predictive of major depression,  
NOTE Confidence: 0.85604288625

00:57:01.370 --> 00:57:03.254 there's major depression occur  
NOTE Confidence: 0.85604288625

00:57:03.254 --> 00:57:05.138 before substance use disorder.  
NOTE Confidence: 0.85604288625

00:57:05.140 --> 00:57:07.480 Could we use that as a way to also screen,  
NOTE Confidence: 0.85604288625

00:57:07.480 --> 00:57:11.536 you know, for for substance misuse?  
NOTE Confidence: 0.85604288625

00:57:11.540 --> 00:57:13.822 I do think that there in terms  
NOTE Confidence: 0.85604288625

00:57:13.822 --> 00:57:16.359 of games or digital technology,  
NOTE Confidence: 0.85604288625

00:57:16.360 --> 00:57:19.867 there are ways in which you can.  
NOTE Confidence: 0.85604288625

00:57:19.870 --> 00:57:23.111 Measure like the ways in which behavior

NOTE Confidence: 0.85604288625

00:57:23.111 --> 00:57:27.239 in a game can be reflective of affect.

NOTE Confidence: 0.85604288625

00:57:27.240 --> 00:57:34.210 And so if, if, if, we can.

NOTE Confidence: 0.85604288625

00:57:34.210 --> 00:57:36.650 If we can embed some of those as

NOTE Confidence: 0.85604288625

00:57:36.650 --> 00:57:39.008 we develop games and we use that

NOTE Confidence: 0.85604288625

00:57:39.008 --> 00:57:41.708 as monitoring for like if if we can

NOTE Confidence: 0.85604288625

00:57:41.708 --> 00:57:43.622 monitor a change in your effects

NOTE Confidence: 0.85604288625

00:57:43.622 --> 00:57:45.960 is that also improving your risk

NOTE Confidence: 0.85604288625

00:57:45.960 --> 00:57:47.568 or lowering your risk.

NOTE Confidence: 0.85604288625

00:57:47.570 --> 00:57:49.146 So I do think I mean and these

NOTE Confidence: 0.85604288625

00:57:49.146 --> 00:57:50.654 are highly commoditized like the

NOTE Confidence: 0.85604288625

00:57:50.654 --> 00:57:52.074 depression anxiety increase you're

NOTE Confidence: 0.85604288625

00:57:52.074 --> 00:57:53.819 repeating as they increase your

NOTE Confidence: 0.85604288625

00:57:53.819 --> 00:57:55.067 risk of substance misuse.

NOTE Confidence: 0.85604288625

00:57:55.070 --> 00:57:58.126 So we do need to be addressing the

NOTE Confidence: 0.85604288625

00:57:58.126 --> 00:58:00.214 both but also yes I agree thinking

NOTE Confidence: 0.85604288625

00:58:00.214 --> 00:58:02.769 about how we how we use what we  
NOTE Confidence: 0.85604288625

00:58:02.769 --> 00:58:04.125 know about the physiological.  
NOTE Confidence: 0.85604288625

00:58:04.130 --> 00:58:04.821 Presentations,  
NOTE Confidence: 0.85604288625

00:58:04.821 --> 00:58:06.894 physiological manifestations of  
NOTE Confidence: 0.85604288625

00:58:06.894 --> 00:58:08.276 this disorders,  
NOTE Confidence: 0.85604288625

00:58:08.280 --> 00:58:10.709 how do we embed those in games  
NOTE Confidence: 0.85604288625

00:58:10.709 --> 00:58:12.785 that measure and monitor over time  
NOTE Confidence: 0.85604288625

00:58:12.785 --> 00:58:15.520 and how do we use that to monitor  
NOTE Confidence: 0.85604288625

00:58:15.520 --> 00:58:18.118 improvements as we as we address,  
NOTE Confidence: 0.85604288625

00:58:18.120 --> 00:58:20.196 as we address this underlying disorders?  
NOTE Confidence: 0.820860143

00:58:21.860 --> 00:58:22.950 Which I think that there  
NOTE Confidence: 0.820860143

00:58:22.950 --> 00:58:24.040 would be many more questions,  
NOTE Confidence: 0.820860143

00:58:24.040 --> 00:58:25.600 but we're going to finish here.  
NOTE Confidence: 0.820860143

00:58:25.600 --> 00:58:27.070 But thank you so much.