0:00:00 –> 0:00:02.49 Support for Yale Cancer Answers
0:00:02.49 –> 0:00:04.98 comes from AstraZeneca, dedicated
0:00:05.057 –> 0:00:07.432 to advancing options and providing
0:00:07.432 –> 0:00:10.42 hope for people living with cancer.
0:00:10.42 –> 0:00:14.048 More information at astrazeneca-us.com.
0:00:14.05 –> 0:00:16.168 Welcome to Yale Cancer Answers with
0:00:16.168 –> 0:00:18.479 your host doctor Anees Chagpar.
0:00:18.48 –> 0:00:20.3 Yale Cancer Answers features the
0:00:20.3 –> 0:00:22.537 latest information on cancer care by
0:00:22.537 –> 0:00:23.969 welcoming oncologists and specialists
0:00:23.969 –> 0:00:26.374 who are on the forefront of the
0:00:26.374 –> 0:00:28.03 battle to fight cancer. This week,
0:00:28.03 –> 0:00:29.974 it's a conversation about outcomes research
0:00:29.974 –> 0:00:32.12 in kidney cancer with Doctor Michaela Dinan.
0:00:32.12 –> 0:00:34.29 Doctor Dinan is an
0:00:34.29 –> 0:00:36.027 associate professor in chronic disease
0:00:36.027 –> 0:00:38.271 Epidemiology at the Yale School of
0:00:38.271 –> 0:00:40.31 Public Health and Doctor Chagpar
0:00:40.31 –> 0:00:42.848 is a professor of surgical oncology
0:00:42.848 –> 0:00:45.57 at the Yale School of Medicine.
0:00:45.92 –> 0:00:47.615 Michaela, maybe we can start
0:00:47.615 –> 0:00:50.082 off by you telling us a little
0:00:50.082 –> 0:00:51.827 bit more about yourself and
0:00:51.83 –> 0:00:52.97 what exactly you do.
0:00:52.97 –> 0:00:55.104 I call myself a cancer outcomes or
0:00:55.104 –> 0:00:56.939 health services researcher so people
0:00:56.939 –> 0:00:58.869 aren't always familiar with cancer
0:00:58.869 –> 0:01:00.879 outcomes or health services research.
0:01:00.88 –> 0:01:03.085 They tend to be more familiar with
0:01:03.085 –> 0:01:05.059 basic or clinical Cancer Research.
0:01:05.06 –> 0:01:06.73 Basic Cancer Research relates to

0:01:06.73 –> 0:01:09.578 studies done in a lab with cancer cells,
0:01:09.58 –> 0:01:12.236 either in a Petri dish or in animals
0:01:12.236 –> 0:01:14.074 where researchers can directly manipulate
0:01:14.074 –> 0:01:16.288 and study cancer cells to learn
0:01:16.288 –> 0:01:18.568 more about basic biology of cancer.
0:01:18.57 –> 0:01:20.814 And then, clinical Cancer Research refers
0:01:20.814 –> 0:01:23.533 to when advances in basic science are
0:01:23.533 –> 0:01:25.463 being translated into actual medical
0:01:25.463 –> 0:01:27.526 tests or treatments and are then
0:01:27.526 –> 0:01:30.128 tested in humans to see if they work.
0:01:30.128 –> 0:01:32.402 My focus of research health services
0:01:32.402 –> 0:01:34.511 is the part that comes
0:01:34.511 –> 0:01:36.437 after this, after a new medical
0:01:36.506 –> 0:01:38.336 treatment or diagnostic tool is
0:01:38.336 –> 0:01:40.515 found to work in clinical trials,
0:01:40.515 –> 0:01:42.585 I study how it actually gets
0:01:42.585 –> 0:01:44.49 used in the real world.
0:01:44.49 –> 0:01:47.74 You have to remember that only around 3% of
0:01:47.74 –> 0:01:50.33 patients are treated on a clinical trial.
0:01:50.33 –> 0:01:52.1 And other people who take part
0:01:52.1 –> 0:01:54.062 in clinical trials are not like
0:01:54.062 –> 0:01:55.51 the general cancer population.
0:01:55.51 –> 0:01:58.426 In order to be enrolled in a clinical trial,
0:01:58.43 –> 0:02:00.649 you have to be healthy enough to
0:02:00.649 –> 0:02:02.199 qualify for participation and every
0:02:02.199 –> 0:02:04.343 clinical trial has a set of very strict
0:02:04.402 –> 0:02:06.21 inclusion and exclusion criteria.
0:02:06.21 –> 0:02:08.794 And if you don't meet every single one,
0:02:08.8 –> 0:02:11.068 you can't participate as you can imagine,
0:02:11.07 –> 0:02:13.429 the vast majority of patients who receive
0:02:13.429 –> 0:02:15.926 treatment are not part of a clinical trial,

0:02:15.93 –> 0:02:17.685 so trial participants don't look
0:02:17.685 –> 0:02:19.833 like everyone else who gets treatment
0:02:19.833 –> 0:02:22.136 for their cancer in the real world.
0:02:22.14 –> 0:02:24.192 Many people that are not included
0:02:24.192 –> 0:02:26.47 in trials are often older adults.
0:02:26.47 –> 0:02:28.35 People who have other medical
0:02:28.35 –> 0:02:30.639 conditions or people who don't live
0:02:30.639 –> 0:02:32.673 near an academic Medical Center or
0:02:32.673 –> 0:02:35.166 who can't make all the extra visits
0:02:35.166 –> 0:02:36.578 that are often required,
0:02:36.58 –> 0:02:39.135 or people that don't otherwise want to
0:02:39.135 –> 0:02:41.27 participate in trials for some reason.
0:02:41.27 –> 0:02:42.353 Health Services Research,
0:02:42.353 –> 0:02:44.158 which is what I do,
0:02:44.16 –> 0:02:45.92 looks at how cancer treatments
0:02:45.92 –> 0:02:48.13 happen quote in the real world.
0:02:48.13 –> 0:02:49.129 So for example,
0:02:49.129 –> 0:02:51.925 we get to ask questions like how is
0:02:51.925 –> 0:02:53.9 cancer treated within the entire
0:02:53.9 –> 0:02:56.179 country as opposed to just one center?
0:02:56.482 –> 0:02:58.898 Who has access to new treatments?
0:03:01.16 –> 0:03:02.82 What are the outcomes associated
0:03:02.82 –> 0:03:04.148 with these new treatments?
0:03:04.15 –> 0:03:06.142 How much does it cost to
0:03:06.142 –> 0:03:07.138 get these treatments?
0:03:07.14 –> 0:03:09.331 And are there racial or economic or
0:03:09.331 –> 0:03:11.207 other disparities in access to cancer care?
0:03:16.57 –> 0:03:19.16 Wow, I mean that sounds so relevant
0:03:19.16 –> 0:03:21.738 because when you think
0:03:21.738 –> 0:03:24.276 about the subpopulation, as you say,
0:03:24.276 –> 0:03:26.568 who get treated on clinical trials

0:03:26.568 –> 0:03:29.408 being so small and yet the outcomes
0:03:29.408 –> 0:03:31.523 of those clinical trials are
0:03:31.523 –> 0:03:33.788 applied to the entire population,
0:03:33.79 –> 0:03:36.466 it seems to be particularly important
0:03:36.466 –> 0:03:39.438 to see what happens out there in
0:03:39.438 –> 0:03:41.646 the real world on patients who
0:03:41.646 –> 0:03:44.089 may not have looked exactly like
0:03:44.089 –> 0:03:46.91 the people who were in the trials.
0:03:47.67 –> 0:03:48.938 Yes, that's exactly right.
0:03:48.938 –> 0:03:50.84 And the other point about clinical
0:03:50.894 –> 0:03:53.001 trials is that they tend to be
0:03:53.001 –> 0:03:54.206 highly controlled settings, right?
0:03:54.206 –> 0:03:55.686 So patients who are participating
0:03:55.686 –> 0:03:57.74 in a clinical trial not only have
0:03:57.74 –> 0:03:59.095 they gone through the litany
0:03:59.095 –> 0:04:00.47 of inclusion exclusion criteria
0:04:00.47 –> 0:04:02.018 that I've already mentioned,
0:04:02.02 –> 0:04:03.252 just to be enrolled,
0:04:03.252 –> 0:04:05.45 but once they are enrolled they are very
0:04:05.45 –> 0:04:07.12 closely monitored and followed in
0:04:07.12 –> 0:04:09.136 terms of their treatment and their
0:04:09.136 –> 0:04:10.882 outcomes that someone is
0:04:10.882 –> 0:04:12.94 keeping a very watchful eye on them.
0:04:12.94 –> 0:04:15.131 This is very different from a patient
0:04:15.131 –> 0:04:17.42 in the real world who's kind of
0:04:17.42 –> 0:04:19.317 coming into and going out of the
0:04:19.317 –> 0:04:20.711 healthcare system on a regular
0:04:20.711 –> 0:04:22.277 basis and may not be being followed
0:04:22.277 –> 0:04:23.878 as closely.
0:04:25.03 –> 0:04:27.158 So tell us a little bit more about
0:04:27.158 –> 0:04:29.136 your more recent research and what

0:04:29.136 –> 0:04:31.206 you've been doing in this realm.
0:04:32.46 –> 0:04:34.62 Sure, right now
0:04:34.62 –> 0:04:37.371 I currently have a study funded by
0:04:37.371 –> 0:04:39.891 the National Cancer Institute to look
0:04:39.891 –> 0:04:42.423 at oral Anti cancer agent utilization
0:04:42.423 –> 0:04:44.957 in patients with kidney cancer.
0:04:44.96 –> 0:04:47.546 So kidney cancer, like most cancers,
0:04:47.55 –> 0:04:50.04 can either be early stage or
0:04:50.04 –> 0:04:52.29 more advanced stage.
0:04:52.29 –> 0:04:55.69 Stage refers to how far a cancer has
0:04:55.69 –> 0:04:57.888 spread throughout a person's body.
0:04:57.89 –> 0:05:00.482 So for kidney cancer, early stage
0:05:00.482 –> 0:05:03.139 disease is confined to the kidney.
0:05:03.14 –> 0:05:05.168 Whereas for advanced or metastatic disease,
0:05:05.17 –> 0:05:07.39 the disease has learned to travel
0:05:07.39 –> 0:05:09.228 through the bloodstream and has
0:05:09.228 –> 0:05:11.244 spread to other parts of the body,
0:05:11.25 –> 0:05:15.044 such as the lungs, bones or brain.
0:05:15.05 –> 0:05:17.808 So early stage disease is typically treated
0:05:17.808 –> 0:05:20.689 with a surgery or if it's small enough,
0:05:22.946 –> 0:05:24.45 or in an elderly or unhealthy person,
0:05:24.45 –> 0:05:26.33 it is sometimes just observed.
0:05:26.33 –> 0:05:28.59 Advanced kidney cancer for most
0:05:28.59 –> 0:05:30.84 patients is not curable.
0:05:30.84 –> 0:05:31.24 However,
0:05:31.24 –> 0:05:33.64 the treatments for advanced kidney cancer
0:05:33.64 –> 0:05:35.729 have improved dramatically in recent years.
0:05:35.73 –> 0:05:37.842 One of the biggest changes has
0:05:37.842 –> 0:05:40.137 been the development of these oral
0:05:40.137 –> 0:05:42.187 cancer treatments or pills that
0:05:42.187 –> 0:05:44.47 target kidney cancer to help shrink

0:05:44.47 –> 0:05:46.166 or delay its growth.
0:05:46.166 –> 0:05:48.71 These oral cancer treatments have been
0:05:48.788 –> 0:05:51.446 allowing people to live years longer,
0:05:51.45 –> 0:05:53.718 even for people who have what
0:05:53.718 –> 0:05:55.23 traditionally would have been
0:05:55.303 –> 0:05:57.547 considered incurable kidney cancer.
0:05:57.55 –> 0:05:57.986 However,
0:05:57.986 –> 0:06:00.166 these oral treatments are relatively
0:06:00.166 –> 0:06:01.91 new to kidney cancer.
0:06:01.91 –> 0:06:04.778 The first oral agents for kidney
0:06:04.778 –> 0:06:07.159 cancer became available or were
0:06:07.159 –> 0:06:10.183 approved by the FDA in 2005 and 2006,
0:06:10.19 –> 0:06:12.445 but with many similar treatments
0:06:12.445 –> 0:06:14.7 having been discovered since then.
0:06:14.7 –> 0:06:17.199 In fact now
0:06:17.2 –> 0:06:19.222 the 10 first new drugs approved
0:06:19.222 –> 0:06:21.479 for kidney cancer in recent years,
0:06:21.48 –> 0:06:24.595 7 out of 10 were oral agents.
0:06:24.6 –> 0:06:26.59 The interesting thing about oral
0:06:26.59 –> 0:06:29.03 anti cancer agents is that they
0:06:29.03 –> 0:06:31.298 represent a shift from how cancer
0:06:31.298 –> 0:06:33.38 treatment used to be delivered.
0:06:33.38 –> 0:06:36.159 So as most folks know, cancer treatment
0:06:36.159 –> 0:06:39.029 used to be almost always intravenous
0:06:39.029 –> 0:06:42.739 or given by injection at the hospital.
0:06:42.74 –> 0:06:44.672 So you know it required patients to
0:06:44.672 –> 0:06:47.096 come to a cancer hospital or clinic
0:06:47.096 –> 0:06:49.006 in order to receive treatment.
0:06:49.01 –> 0:06:49.332 However,
0:06:49.332 –> 0:06:51.586 oral agents are picked up by the
0:06:51.586 –> 0:06:53.96 patient from the pharmacy and taken home,

0:06:53.96 –> 0:06:55.424 and unlike intravenous treatments,

0:06:55.424 –> 0:06:57.62 these oral agents are not taken

0:06:57.684 –> 0:06:59.238 in front of a medical staff.

0:06:59.24 –> 0:06:59.526 Instead,

0:06:59.526 –> 0:07:01.814 they are taken at home by the patients

0:07:01.814 –> 0:07:04.099 when patients come to a cancer clinic

0:07:04.099 –> 0:07:06.17 and receive an intravenous chemotherapy,

0:07:06.17 –> 0:07:07.82 obviously, the doctors know that

0:07:07.82 –> 0:07:09.47 they're getting the treatment there.

0:07:09.8 –> 0:07:11.45 The same is not necessarily

0:07:11.45 –> 0:07:12.77 true for oral agents,

0:07:12.77 –> 0:07:13.135 however.

0:07:13.135 –> 0:07:14.96 Patients can forget to take

0:07:14.96 –> 0:07:15.69 their medications.

0:07:15.69 –> 0:07:17.325 They can forget or delay

0:07:17.325 –> 0:07:18.306 refilling their prescriptions.

0:07:18.31 –> 0:07:19.795 They may not follow the

0:07:19.795 –> 0:07:21.712 instructions as to when and how

0:07:21.712 –> 0:07:23.557 to take their medications exactly,

0:07:23.56 –> 0:07:25.856 or they may choose to stop taking

0:07:25.856 –> 0:07:26.84 their medication altogether,

0:07:26.84 –> 0:07:28.85 particularly if they are concerned that

0:07:28.85 –> 0:07:31.427 they might be having side effects from it,

0:07:31.43 –> 0:07:33.677 or if the cost of filling the

0:07:33.677 –> 0:07:35.04 prescription is too high.

0:07:35.04 –> 0:07:36.87 So my current research has been

0:07:36.87 –> 0:07:39.539 looking at the use of these oral anti

0:07:39.539 –> 0:07:41.269 cancer agents and kidney cancer.

0:07:41.27 –> 0:07:43.298 I'm looking at things like

0:07:43.298 –> 0:07:44.65 who are receiving them.

0:07:44.65 –> 0:07:46.384 Are there any racial or economic

0:07:46.384 –> 0:07:48.199 disparities in access to these drugs?
0:07:48.2 –> 0:07:50.63 Are patients doing as well as they did in
0:07:50.63 –> 0:07:52.636 clinical trials when taking these drugs?
0:07:52.64 –> 0:07:54.705 Because like we were just talking about,
0:07:54.71 –> 0:07:57.239 when a patient when these drugs were
0:07:57.239 –> 0:07:59.448 being first studied in a clinical trial,
0:07:59.45 –> 0:08:01.22 they were being studied in a
0:08:01.22 –> 0:08:02.105 highly controlled setting,
0:08:02.11 –> 0:08:04.478 whereas now in the real world,
0:08:04.48 –> 0:08:05.96 patients are on their own,
0:08:05.96 –> 0:08:07.14 taking them at home,
0:08:07.14 –> 0:08:08.636 and then finally,
0:08:08.636 –> 0:08:09.848 I'm interested in questions
0:08:09.848 –> 0:08:11.589 like can patients
0:08:11.59 –> 0:08:13.07 afford to continue taking these
0:08:13.07 –> 0:08:14.55 drugs based on the cost?
0:08:15.38 –> 0:08:17.03 Those all sound like really
0:08:17.03 –> 0:08:17.69 interesting questions.
0:08:17.69 –> 0:08:22.45 What have you found?
0:08:22.45 –> 0:08:24.7 What's interesting is that we have
0:08:24.7 –> 0:08:27.502 found that by 2015 a little over 1/3
0:08:27.502 –> 0:08:29.962 of patients with kidney cancer with
0:08:29.962 –> 0:08:32.428 renal cell carcinoma specifically,
0:08:32.43 –> 0:08:35.468 which is a subset of kidney cancer,
0:08:35.47 –> 0:08:37.96 were receiving an oral anti cancer
0:08:37.96 –> 0:08:40.68 agent for their advanced kidney cancer.
0:08:40.68 –> 0:08:43.572 We know that previous studies have
0:08:43.572 –> 0:08:45.904 shown that black patients have
0:08:45.904 –> 0:08:48.056 had about a 10% worse mortality
0:08:48.056 –> 0:08:49.788 associated with kidney cancer,
0:08:49.79 –> 0:08:52.175 and we know that this

0:08:52.175 –> 0:08:54.083 difference is not improved with
0:08:54.09 –> 0:08:55.23 the introduction of these
0:08:55.23 –> 0:08:56.75 oral anti cancer agents.
0:08:56.75 –> 0:08:59.612 We wanted to see if access to these drugs
0:08:59.612 –> 0:09:02.828 was a potential driver of these disparities.
0:09:02.83 –> 0:09:03.23 Surprisingly,
0:09:03.23 –> 0:09:06.43 when we looked we didn't see any difference
0:09:06.43 –> 0:09:08.91 in access to these drugs by race,
0:09:08.91 –> 0:09:10.81 ethnicity or any other indicators
0:09:10.81 –> 0:09:11.95 of socioeconomic status.
0:09:11.95 –> 0:09:12.323 However,
0:09:12.323 –> 0:09:14.934 we did see decreased use in these
0:09:14.934 –> 0:09:17.35 oral agents in patients who were
0:09:17.35 –> 0:09:19.35 unmarried, patients who were living
0:09:19.35 –> 0:09:21.586 in the South, and patients who
0:09:21.586 –> 0:09:24.11 were in older age groups and in
0:09:24.11 –> 0:09:25.63 this specific patient population
0:09:25.63 –> 0:09:28.998 that means patients who
0:09:29 –> 0:09:32.006 were in the age group 80 plus.
0:09:32.326 –> 0:09:34.222 We were surprised to see that
0:09:34.222 –> 0:09:36.276 access to these drugs was not
0:09:36.276 –> 0:09:38.016 different by race or ethnicity,
0:09:38.02 –> 0:09:40.316 so we next wanted to see if something
0:09:40.316 –> 0:09:42.416 else could be driving disparities in
0:09:42.416 –> 0:09:45.03 kidney cancer outcomes that we know exist.
0:09:45.03 –> 0:09:47.312 So we looked at adherence to these
0:09:47.312 –> 0:09:48.942 medications and what we observed
0:09:48.942 –> 0:09:51.014 was that about half of the patients
0:09:51.014 –> 0:09:53.209 we studied were adhering to the
0:09:53.209 –> 0:09:54.677 medication during the first
0:09:54.677 –> 0:09:56.582 three months of their treatment.

0:09:56.582 –> 0:09:58.497 So we were interested in the patients
0:09:58.497 –> 0:10:00.158 who live in areas with
0:10:00.16 –> 0:10:02.372 high levels of poverty were much less
0:10:02.372 –> 0:10:04.385 likely to take their medication almost
0:10:04.385 –> 0:10:07.183 half as likely as those who did not
0:10:07.183 –> 0:10:09.158 live in high poverty neighborhoods.
0:10:09.16 –> 0:10:09.478 Also,
0:10:09.478 –> 0:10:12.022 we found that patients that had to pay more
0:10:12.022 –> 0:10:14.687 than $200 a month for their medications
0:10:14.69 –> 0:10:16.52 they were about 30% less likely
0:10:16.52 –> 0:10:18.481 to be adherent as compared to
0:10:18.481 –> 0:10:20.161 patients paying less than $200
0:10:20.161 –> 0:10:22.3 a month for their medication.
0:10:22.3 –> 0:10:25.76 So when we take a step back from all this,
0:10:25.76 –> 0:10:27.836 what we think we're seeing is
0:10:27.836 –> 0:10:29.608 that although poor patients are
0:10:29.608 –> 0:10:31.57 able to start these drugs because
0:10:31.57 –> 0:10:33.529 we're not seeing any difference
0:10:33.53 –> 0:10:34.811 in their initiation,
0:10:34.811 –> 0:10:38.235 they may not be able to continue to
0:10:38.235 –> 0:10:41.011 take them or to continue to take them
0:10:41.011 –> 0:10:43.779 as often as they are prescribed,
0:10:43.78 –> 0:10:45.895 because we're seeing decreases in
0:10:45.895 –> 0:10:48.515 the adherence to these drugs and
0:10:48.515 –> 0:10:51.095 that could be affecting the
0:10:51.095 –> 0:10:52.799 differential outcomes that
0:10:52.799 –> 0:10:54.845 we know exist in patients with kidney cancer.
0:10:54.85 –> 0:10:58.126 So when you control
0:10:58.126 –> 0:11:00.796 for socioeconomic status and
0:11:00.796 –> 0:11:03.54 you look at the impact on race
0:11:03.54 –> 0:11:07.306 did you find that that was a

0:11:07.306 –> 0:11:09.959 driver that

0:11:09.96 –> 0:11:11.403 mediated the relationship

0:11:11.403 –> 0:11:13.327 between race and outcomes?

0:11:15.26 –> 0:11:20.63 I think that

0:11:20.63 –> 0:11:21.966 is a good interpretation of

0:11:21.966 –> 0:11:23.303 what we're seeing, right?

0:11:23.303 –> 0:11:25.634 So I think what you're asking is,

0:11:25.64 –> 0:11:27.985 when you look at everything

0:11:27.985 –> 0:11:30.319 in the same model,

0:11:30.32 –> 0:11:32.323 we're seeing that yes,

0:11:32.323 –> 0:11:34.321 poverty is driving this measure

0:11:34.321 –> 0:11:36.326 of adherence, but we're not

0:11:36.326 –> 0:11:37.996 seeing an association with race,

0:11:38 –> 0:11:40.331 but I think what you're

0:11:40.331 –> 0:11:41.855 getting at, which is correct,

0:11:41.855 –> 0:11:44.323 is that the kind of

0:11:44.323 –> 0:11:46.348 interaction between race and poverty,

0:11:46.35 –> 0:11:49.37 those are two very closely

0:11:49.37 –> 0:11:52.597 related.

0:11:52.6 –> 0:11:54.89 So yes, seeing an association

0:11:54.89 –> 0:11:57.18 in one might be attenuating

0:11:57.258 –> 0:11:59.508 the association in the other.

0:12:00.12 –> 0:12:03.298 Did you look at that?

0:12:03.3 –> 0:12:06.716 The reason I ask is

0:12:06.716 –> 0:12:09.549 because we've seen a similar thing

0:12:09.549 –> 0:12:12.375 across a number of disease sites.

0:12:12.38 –> 0:12:15.068 I did a study just recently

0:12:15.068 –> 0:12:17.364 looking at breast cancer survivors

0:12:17.364 –> 0:12:20.55 and their use of endocrine therapy,

0:12:20.55 –> 0:12:23.665 which is also an oral agent that

0:12:23.665 –> 0:12:27.14 women take for at least five years

0:12:27.14 –> 0:12:30.206 and very similar to your findings,
0:12:30.21 –> 0:12:32.64 did not find that there was
0:12:32.64 –> 0:12:34.71 necessarily a difference by race,
0:12:34.71 –> 0:12:37.139 which we had thought might have been
0:12:37.139 –> 0:12:39.712 a factor when looking at whether
0:12:39.712 –> 0:12:41.656 people took these medications,
0:12:41.66 –> 0:12:44.66 but we we were looking at the question
0:12:44.66 –> 0:12:47.75 of did you not take this medication
0:12:47.75 –> 0:12:50.858 as prescribed due to cost and we
0:12:50.858 –> 0:12:53.546 thought there may be a
0:12:53.546 –> 0:12:55.98 racial disparity in terms of that.
0:12:55.98 –> 0:12:58.428 But when we looked at it,
0:12:58.43 –> 0:13:01.046 we didn't find a racial disparity
0:13:01.046 –> 0:13:02.354 but really found a
0:13:02.36 –> 0:13:04.922 difference very much as you say
0:13:04.922 –> 0:13:08.095 in terms of poverty and in terms of
0:13:08.095 –> 0:13:10.99 whether or not people had insurance.
0:13:10.99 –> 0:13:14.362 I'm wondering if
0:13:14.362 –> 0:13:16.61 you controlled for poverty
0:13:16.61 –> 0:13:18.818 and whether we still see a
0:13:18.818 –> 0:13:20.846 difference in outcomes between black
0:13:20.846 –> 0:13:22.806 patients and Caucasian patients.
0:13:22.81 –> 0:13:25.694 So in our city we did not
0:13:25.7 –> 0:13:27.76 see a difference by race,
0:13:27.76 –> 0:13:31.064 but we did see a difference by poverty.
0:13:31.07 –> 0:13:34.47 So by both indicators of poverty and
0:13:34.47 –> 0:13:37.668 race were in the model and the
0:13:37.67 –> 0:13:40.554 association by race, as you said,
0:13:40.56 –> 0:13:43.912 for your city was not significant where it
0:13:43.912 –> 0:13:47.517 was for the indicators of poverty level.
0:13:47.52 –> 0:13:48.652 Does that make sense?

0:13:48.652 –> 0:13:50.067 So even though they were

0:13:50.067 –> 0:13:51.41 both in the model race,

0:13:51.41 –> 0:13:53.634 we did not find an association with race,

0:13:53.64 –> 0:13:55.03 but we did with poverty,

0:13:55.03 –> 0:13:57.342 and I guess the point that I was

0:13:57.342 –> 0:13:59.311 trying to make earlier is that

0:13:59.311 –> 0:14:00.956 we know you that

0:14:00.96 –> 0:14:03.86 unfortunately, in this country,

0:14:03.86 –> 0:14:07.485 poverty differentially impacts folks

0:14:11.5 –> 0:14:13.768 by race and ethnicity.

0:14:13.77 –> 0:14:16.05 This is such an

0:14:16.05 –> 0:14:16.81 interesting conversation,

0:14:16.81 –> 0:14:19.057 but we need to take a short

0:14:19.057 –> 0:14:21.35 break for a medical minute.

0:14:21.35 –> 0:14:23.624 Please stay tuned to learn more

0:14:23.624 –> 0:14:25.14 about cancer prevention with

0:14:25.14 –> 0:14:26.656 my guest Doctor Michaela Dinan.

0:14:26.656 –> 0:14:28.93 Support for Yale Cancer Answers

0:14:28.93 –> 0:14:31.396 comes from AstraZeneca, working

0:14:31.396 –> 0:14:34.24 to eliminate cancer as a cause of death.

0:14:34.24 –> 0:14:37.528 Learn more at astrazeneca-us.com.

0:14:37.53 –> 0:14:39.59 This is a medical minute

0:14:39.59 –> 0:14:40.826 about colorectal cancer.

0:14:40.83 –> 0:14:42.231 When detected early,

0:14:42.231 –> 0:14:44.566 colorectal cancer is easily treated

0:14:44.566 –> 0:14:47.449 on highly curable and as a result

0:14:47.449 –> 0:14:49.779 it's recommended that men and women

0:14:49.779 –> 0:14:52.453 over the age of 50 have regular

0:14:52.453 –> 0:14:54.728 colonoscopies to screen for the disease.

0:14:54.728 –> 0:14:56.613 Tumor gene analysis has helped

0:14:56.613 –> 0:14:58.352 improve management of colorectal

0:14:58.352 –> 0:15:00.512 cancer by identifying the patients

0:15:00.512 –> 0:15:02.695 most likely to benefit from

0:15:02.695 –> 0:15:04.785 chemotherapy and newer targeted agents,

0:15:04.79 –> 0:15:06.69 resulting in more patient

0:15:06.69 –> 0:15:07.64 specific treatments.

0:15:07.64 –> 0:15:09.672 More information is available

0:15:09.672 –> 0:15:10.688 at yalecancercenter.org.

0:15:10.69 –> 0:15:14.866 You're listening to Connecticut Public Radio.

0:15:14.87 –> 0:15:15.31 Welcome

0:15:15.31 –> 0:15:17.5 back to Yale Cancer Answers.

0:15:17.5 –> 0:15:20.212 This is doctor Anees Chagpar and

0:15:20.212 –> 0:15:23.164 I'm joined tonight by my guest Doctor

0:15:23.164 –> 0:15:25.354 Michaela Dinan and we're talking

0:15:25.429 –> 0:15:28.034 about cancer prevention and more,

0:15:28.034 –> 0:15:30.639 specifically, right before the break

0:15:30.64 –> 0:15:32.388 Michaela you were telling

0:15:32.388 –> 0:15:34.136 us about your research

0:15:34.14 –> 0:15:36.255 looking at disparities that we

0:15:36.255 –> 0:15:38.37 see in outcomes between African

0:15:38.444 –> 0:15:40.384 American patients and Caucasian

0:15:40.384 –> 0:15:42.809 patients with regards to kidney

0:15:42.809 –> 0:15:44.897 cancer and renal cell cancer.

0:15:44.9 –> 0:15:46.361 In particular,

0:15:46.361 –> 0:15:48.796 you were looking specifically

0:15:48.8 –> 0:15:52.592 then at oral agents and found that really

0:15:52.592 –> 0:15:56.1 race was not a driver of adherence,

0:15:56.1 –> 0:15:59.016 but really poverty was, so a

0:15:59.016 –> 0:16:00.474 couple of questions.

0:16:00.48 –> 0:16:04.312 Has anybody gone back and looked at the

0:16:04.312 –> 0:16:06.818 correlation between race and outcomes?

0:16:06.82 –> 0:16:10.502 That kind of drove your research to

0:16:10.502 –> 0:16:14.928 begin with and took a step back and said

0:16:14.93 –> 0:16:17.918 uncoupling that from poverty is

0:16:17.918 –> 0:16:19.412 it really poverty

0:16:19.42 –> 0:16:22.906 that is the driver of those outcomes,

0:16:22.91 –> 0:16:26.558 or is it really race and the poverty

0:16:26.558 –> 0:16:28.676 by association with nonadherence

0:16:28.676 –> 0:16:30.9 is a separate issue?

0:16:33.305 –> 0:16:36.476 Yeah, so the overall question of

0:16:36.476 –> 0:16:39.248 why is there differential outcomes for

0:16:39.248 –> 0:16:42.019 patients of black race with kidney cancer?

0:16:42.02 –> 0:16:44.757 That's a bigger question and the studies

0:16:44.757 –> 0:16:47.17 that have looked at that question

0:16:47.17 –> 0:16:49.802 some of them have certainly

0:16:49.802 –> 0:16:52.668 included measures of poverty in them and

0:16:52.668 –> 0:16:55.164 have still found a significant association

0:16:55.241 –> 0:16:57.455 between race and outcomes as well.

0:16:57.46 –> 0:16:59.044 You're right and

0:16:59.044 –> 0:17:00.628 our study was specifically a

0:17:02.71 –> 0:17:05.21 subset of that question.

0:17:05.21 –> 0:17:07.21 Because we were specifically

0:17:07.21 –> 0:17:08.71 interested in

0:17:08.71 –> 0:17:12.021 how are oral anti cancer agents either

0:17:12.021 –> 0:17:15.048 contributing or not contributing to this

0:17:15.048 –> 0:17:18.084 kind of pre observed disparity that

0:17:18.084 –> 0:17:21.207 we've seen in kidney cancer patients?

0:17:21.21 –> 0:17:24.06 So because oral anti cancer agents

0:17:24.06 –> 0:17:26.57 were a relatively knew technology

0:17:26.57 –> 0:17:29.205 in the kidney cancer space,

0:17:29.21 –> 0:17:32.857 we wanted to see whether or not

0:17:32.86 –> 0:17:35.075 they were contributing

0:17:35.075 –> 0:17:37.29 to an attenuation of

0:17:37.373 –> 0:17:39.369 this disparity in outcomes,

0:17:39.37 –> 0:17:41.475 or whether it was contributing

0:17:41.475 –> 0:17:43.58 to a potential widening of

0:17:43.661 –> 0:17:45.877 these disparities in outcomes.

0:17:45.88 –> 0:17:46.345 Because

0:17:47.275 –> 0:17:49.6 previous research of both mine

0:17:49.6 –> 0:17:52.689 and other folks looking at the

0:17:52.689 –> 0:17:54.769 emergence of medical technologies

0:17:54.769 –> 0:17:57.465 and cancers has shown that

0:17:57.465 –> 0:18:00.305 sometimes it can go either way.

0:18:00.305 –> 0:18:03.155 It can either help mitigate disparities

0:18:03.16 –> 0:18:06.065 or sometimes it can help widen disparities

0:18:06.07 –> 0:18:07.18 if there's

0:18:07.18 –> 0:18:09.03 an additional element of decreased

0:18:09.03 –> 0:18:11.049 access for certain populations.

0:18:12.295 –> 0:18:14.37 The other question that

0:18:14.37 –> 0:18:17.226 I had was when we were talking earlier

0:18:17.226 –> 0:18:19.898 before the break about the whole

0:18:19.898 –> 0:18:22.248 concept of health services research,

0:18:22.25 –> 0:18:24.84 one of the really important points you

0:18:24.84 –> 0:18:27.763 made is that health services

0:18:27.763 –> 0:18:30.373 research really looks at real world

0:18:30.448 –> 0:18:33.346 outcomes as opposed to trials.

0:18:33.35 –> 0:18:37.9 And clinical trials sadly do not necessarily

0:18:37.9 –> 0:18:40.83 include the population at large,

0:18:40.83 –> 0:18:45.806 and so when we think about clinical trials,

0:18:45.81 –> 0:18:48.298 particularly with oral agents

0:18:48.298 –> 0:18:50.164 for kidney cancer,

0:18:50.17 –> 0:18:53.908 did those include African American patients,

0:18:53.91 –> 0:18:58.278 and were the outcomes in those

0:18:58.278 –> 0:19:01.19 African American patients equivalent

0:19:01.299 –> 0:19:03.69 to Caucasian patients?
0:19:03.69 –> 0:19:06.678 I mean, could that partly explain
0:19:06.678 –> 0:19:08.93 some of these disparities as well?
0:19:08.93 –> 0:19:11.78 That's a great question,
0:19:11.78 –> 0:19:14.594 and again, it points to a broader
0:19:14.594 –> 0:19:17.983 issue where clinical trials in
0:19:17.983 –> 0:19:20.608 general struggle to be representative
0:19:20.608 –> 0:19:23.678 of the general population,
0:19:23.68 –> 0:19:25.83 and there are certainly efforts
0:19:25.83 –> 0:19:28.595 to make those clinical trials more
0:19:28.595 –> 0:19:31.3 representative of the general population.
0:19:31.3 –> 0:19:34.975 But that's something that continues to be
0:19:38.074 –> 0:19:40.576 addressed and certainly race is 1
0:19:40.576 –> 0:19:42.76 area where there have been efforts
0:19:42.76 –> 0:19:45.539 to make them more representative.
0:19:45.54 –> 0:19:48.38 I think 1 area where trials continue to
0:19:48.38 –> 0:19:50.299 struggle with their representativeness
0:19:50.299 –> 0:19:52.575 is with older populations,
0:19:52.58 –> 0:19:55.442 and I think that's something that's
0:19:55.442 –> 0:19:57.35 particularly relevant to cancer
0:19:57.429 –> 0:20:00.208 patients because a lot of cancers tend
0:20:00.21 –> 0:20:02.664 to have median age of diagnosis
0:20:02.664 –> 0:20:06.05 for the 65 plus patient population,
0:20:06.05 –> 0:20:10.082 and yet those people tend to be very
0:20:10.082 –> 0:20:12.868 under represented in trials.
0:20:12.87 –> 0:20:13.844 For instance,
0:20:13.844 –> 0:20:17.74 I think one great example of this is
0:20:18.69 –> 0:20:21.065 with an you emerging medical
0:20:21.065 –> 0:20:23.558 technology which is relevant to
0:20:23.558 –> 0:20:26.504 kidney cancer but also other
0:20:26.51 –> 0:20:29.125 cancers are immunotherapies

0:20:29.125 –> 0:20:31.217 or immune checkpoint inhibitors.
0:20:31.22 –> 0:20:32.152 And again,
0:20:32.152 –> 0:20:34.482 older folks in those clinical
0:20:34.482 –> 0:20:37.199 trials are under represented and
0:20:37.2 –> 0:20:40.182 yet there's this kind of assumption
0:20:40.182 –> 0:20:42.646 that these immune checkpoint inhibitors
0:20:42.646 –> 0:20:45.418 are going to be less toxic than
0:20:45.418 –> 0:20:48.773 the standard or previously
0:20:48.773 –> 0:20:50.636 used cytotoxic chemotherapies.
0:20:50.64 –> 0:20:52.212 And so you know,
0:20:52.212 –> 0:20:55.229 a lot of physicians have been operating
0:20:55.229 –> 0:20:58.619 under the assumption that the toxicity
0:20:58.619 –> 0:21:01.77 profiles of these immune oncology
0:21:01.77 –> 0:21:04.212 agents is less than traditional
0:21:04.212 –> 0:21:06.778 therapies and so have been more
0:21:06.778 –> 0:21:08.923 willing to give these therapies
0:21:08.923 –> 0:21:11.467 to older patients and yet it's
0:21:11.467 –> 0:21:13.825 not really based on clinical trial
0:21:13.825 –> 0:21:15.88 data because that clinical trial
0:21:15.88 –> 0:21:17.54 data doesn't readily exist,
0:21:17.54 –> 0:21:20.34 and so one of the things I'm interested
0:21:20.34 –> 0:21:23.529 in potentially looking at in the
0:21:23.529 –> 0:21:26.418 future is real world utilization of
0:21:26.418 –> 0:21:29.19 these drugs in patients who were again
0:21:29.19 –> 0:21:32.105 not going to be represented and in
0:21:32.105 –> 0:21:34.22 standard trials and whose outcomes,
0:21:34.22 –> 0:21:36.728 whose toxicity profiles may look very
0:21:36.728 –> 0:21:38.838 different than what is typically
0:21:38.838 –> 0:21:40.286 seen in a trial.
0:21:40.71 –> 0:21:43.242 I think that
0:21:43.242 –> 0:21:44.93 it's so important,

0:21:44.93 –> 0:21:47.12 especially when we think about the
0:21:47.12 –> 0:21:49.694 fact that these drugs may affect
0:21:49.694 –> 0:21:51.648 different people differently, right?
0:21:51.648 –> 0:21:54.752 I mean, I think we've seen this even
0:21:54.752 –> 0:21:57.759 in the cardiology world back in the
0:21:57.759 –> 0:22:00.845 day when only men were included in
0:22:00.845 –> 0:22:03.911 some of the the heart attack trials
0:22:03.92 –> 0:22:06.797 and we realized that women's
0:22:06.797 –> 0:22:08.551 heart attacks present differently
0:22:08.551 –> 0:22:11.239 than men's heart attacks and
0:22:11.24 –> 0:22:12.912 drugs may affect different
0:22:12.912 –> 0:22:13.748 genders differently,
0:22:13.75 –> 0:22:16.342 and similarly we may find that
0:22:16.342 –> 0:22:18.07 there are differences based
0:22:18.154 –> 0:22:20.019 on race and other things,
0:22:20.02 –> 0:22:23.684 and so trying to tease out what really
0:22:23.684 –> 0:22:27.826 is at the root of these disparities,
0:22:27.83 –> 0:22:31.174 it really does require some as you call
0:22:31.174 –> 0:22:34.587 it real world kind of investigation.
0:22:34.59 –> 0:22:39.42 Yes, and this is all
0:22:39.42 –> 0:22:42.878 so relevant right now in the times
0:22:42.878 –> 0:22:45.699 of COVID-19 where we have this very big need
0:22:48.876 –> 0:22:51.5 to get vaccines approved and treatments
0:22:51.5 –> 0:22:54.4 approved as quickly as possible.
0:22:54.4 –> 0:22:57.858 But again, we already know that COVID-19
0:22:57.86 –> 0:22:58.99 is affecting
0:23:01.53 –> 0:23:04.375 minority racial and ethnic patients
0:23:04.375 –> 0:23:08.12 differently than it is white patients.
0:23:08.12 –> 0:23:11.11 We know that there's differential
0:23:11.11 –> 0:23:15.46 outcomes.
0:23:15.46 –> 0:23:18.785 we know that there are differential outcomes.

0:23:27.808 –> 0:23:31.232 Covid is affecting

0:23:31.232 –> 0:23:33.867 minority patients much more severely

0:23:33.952 –> 0:23:36.347 than it is Caucasian patients.

0:23:36.35 –> 0:23:39.068 What I think is really important,

0:23:39.07 –> 0:23:41.23 thinking about COVID-19 is that

0:23:41.23 –> 0:23:43.898 you know the clinical trials

0:23:43.898 –> 0:23:46.922 that were done really did have a

0:23:46.922 –> 0:23:48.867 reasonably robust representation of

0:23:48.867 –> 0:23:51.879 minority patients

0:23:51.88 –> 0:23:54.84 and so it's led us to believe

0:23:54.84 –> 0:23:58.336 that the vaccines should work equally

0:23:58.336 –> 0:24:01.008 efficaciously for minority patients.

0:24:01.01 –> 0:24:03.038 For African American patients,

0:24:03.038 –> 0:24:06.08 as it should for Caucasian patients.

0:24:06.08 –> 0:24:09.116 But bringing it back to kind

0:24:09.116 –> 0:24:10.634 of health services

0:24:10.64 –> 0:24:14.189 research and real world science is

0:24:14.19 –> 0:24:16.6 this vaccine hesitancy

0:24:16.6 –> 0:24:20.27 and the fact that we're seeing,

0:24:20.27 –> 0:24:22.97 at least by anecdote, that

0:24:22.97 –> 0:24:25.32 there may be more reluctance

0:24:25.32 –> 0:24:27.67 to really embrace the vaccine

0:24:27.759 –> 0:24:29.868 amongst African Americans,

0:24:29.87 –> 0:24:34.622 who sadly are the most affected and who

0:24:34.622 –> 0:24:38.998 probably could use the vaccine the most.

0:24:40.5 –> 0:24:42 So how do you

0:24:42 –> 0:24:45.829 address that in terms

0:24:45.829 –> 0:24:49.54 of trying to understand

0:24:49.54 –> 0:24:51.67 data from clinical trials

0:24:51.67 –> 0:24:53.8 are applied in the real

0:24:53.8 –> 0:24:55.93 world?

0:24:55.93 –> 0:24:57.205 Yeah, it's an interesting
0:24:57.205 –> 0:24:58.905 conundrum.
0:24:58.91 –> 0:25:02.969 I think that in terms of people's
0:25:02.969 –> 0:25:05.296 willingness to take a vaccine,
0:25:05.3 –> 0:25:08.408 their willingness to kind of accept data
0:25:08.408 –> 0:25:11.27 from clinical trials as relevant to them
0:25:11.27 –> 0:25:14.214 I think that that largely depends on the
0:25:14.214 –> 0:25:16.798 messaging and inconsistent messaging.
0:25:16.8 –> 0:25:20.724 I think that part of the problem is that
0:25:20.73 –> 0:25:23.502 some of these issues
0:25:23.502 –> 0:25:26.253 are incredibly entrenched and
0:25:26.253 –> 0:25:28.628 systemic issues that are longstanding
0:25:28.701 –> 0:25:31.108 for some of these populations, right?
0:25:31.108 –> 0:25:33.508 And so
0:25:33.508 –> 0:25:35.528 they're not specific to necessarily
0:25:35.528 –> 0:25:37.489 one vaccine or one trial,
0:25:37.49 –> 0:25:40.354 but generations of a health care
0:25:40.354 –> 0:25:42.87 system that hasn't necessarily always acted
0:25:42.87 –> 0:25:45.86 in their best interest, right?
0:25:45.86 –> 0:25:48.59 So I think just going forward
0:25:48.59 –> 0:25:51.176 a consistent message of
0:25:51.176 –> 0:25:52.55 representation for everyone
0:25:52.55 –> 0:25:53.924 concerned for everyone,
0:25:53.93 –> 0:25:57.323 I think is going to be really important
0:25:57.323 –> 0:26:00.569 and I think that that's true of Covid.
0:26:00.57 –> 0:26:02.916 I think that's true of cancer,
0:26:03.656 –> 0:26:06.232 because one of the issues that we're
0:26:06.232 –> 0:26:08.406 talking about today is cancer
0:26:08.406 –> 0:26:11.103 prevention and some of the most important
0:26:11.103 –> 0:26:13.761 factors for cancer prevention are things
0:26:13.761 –> 0:26:16.615 that have been long known as perhaps

0:26:16.615 –> 0:26:19.42 one area where there's not been a

0:26:19.42 –> 0:26:22.607 ton of really large steps and advances, but

0:26:23.661 –> 0:26:26.823 things like not smoking things like

0:26:27.646 –> 0:26:29.278 maintaining a healthy weight,

0:26:29.28 –> 0:26:30.8 eating a healthy diet

0:26:30.8 –> -0:00:00.001 these are kind of the standards of

0:26:33.6 –> 0:26:35.83 cancer prevention across the board,

0:26:35.83 –> 0:26:38.278 and again, it's certain

0:26:38.28 –> 0:26:40.28 messaging to different

0:26:40.28 –> 0:26:42.28 populations to make sure that

0:26:42.351 –> 0:26:44.416 they are receiving the message.

0:26:44.42 –> 0:26:46.46 Make sure that they understand

0:26:46.46 –> 0:26:48.092 how important it is.

0:26:48.1 –> 0:26:50.956 It is something that needs to be considered.

0:26:53.002 –> 0:26:55.9 I think your point about

0:26:55.9 –> 0:26:57.98 systemic racism and the

0:26:57.98 –> 0:26:59.832 absolutely important tragedies that

0:26:59.832 –> 0:27:02.61 have happened in the US health

0:27:02.684 –> 0:27:04.929 care system over centuries really,

0:27:04.93 –> 0:27:07.774 that has propagated the lack

0:27:07.774 –> 0:27:10.184 of trust for minority populations

0:27:10.184 –> 0:27:12.734 in clinical trials is going to

0:27:12.734 –> 0:27:15.57 be a hard mountain to climb,

0:27:15.57 –> 0:27:18.818 but I think it is so important,

0:27:18.82 –> 0:27:21.838 particularly when we think about not

0:27:21.838 –> 0:27:24.828 only therapeutics and but as you say,

0:27:24.83 –> 0:27:25.778 about prevention.

0:27:25.778 –> 0:27:28.148 Whether we're talking about Covid

0:27:28.148 –> 0:27:30.619 or whether we're talking about

0:27:30.62 –> 0:27:33.777 cancer and so really thinking about all

0:27:33.777 –> 0:27:37.606 of the ways that we can prevent cancer,

0:27:37.61 –> 0:27:39.94 February being Cancer Prevention Month,

0:27:39.94 –> 0:27:42.978 have we seen any impact in terms

0:27:42.978 –> 0:27:45.07 of really driving forward

0:27:45.07 –> 0:27:47.274 some of those behaviors?

0:27:47.274 –> 0:27:50.029 Some of those primary prevention

0:27:50.029 –> 0:27:52.81 techniques that all of us know about

0:27:52.81 –> 0:27:55.778 in terms of cancer prevention.

0:27:55.78 –> 0:27:58.11 Are we making a dent?

0:27:59.3 –> 0:28:01.316 I think so.

0:28:03.04 –> 0:28:05.049 There's a long way

0:28:05.049 –> 0:28:07.58 to go and I think there's a lot more

0:28:07.58 –> 0:28:09.96 to be done in those

0:28:09.96 –> 0:28:11.676 primary areas that you mentioned.

0:28:11.68 –> 0:28:14.558 But for a lot of cancers we do see

0:28:14.558 –> 0:28:17.158 that the incidence of cancer is going down,

0:28:17.16 –> 0:28:19.552 not for all of them, but

0:28:19.552 –> 0:28:21.399 for some of them. Smoking

0:28:21.399 –> 0:28:23.199 related cancers to some extent

0:28:23.2 –> 0:28:25.792 it kind of fluctuates a little bit,

0:28:25.8 –> 0:28:27.235 but for sure we're seeing

0:28:27.235 –> 0:28:28.096 some improvements there.

0:28:30.5 –> 0:28:32.474 One of the easiest things to do

0:28:32.474 –> 0:28:34.269 for younger boys and girls is

0:28:34.269 –> 0:28:36.033 to make sure that they received

0:28:36.033 –> 0:28:37.884 their HPV vaccinations in

0:28:37.884 –> 0:28:39.749 the terms of cancer prevention,

0:28:39.75 –> 0:28:42.165 and certainly since

0:28:42.165 –> 0:28:44.528 the HPV vaccination has come on the scene,

0:28:44.53 –> 0:28:46.21 we've certainly seen decreases

0:28:46.21 –> 0:28:48.31 in HPV related cancers associated

0:28:48.31 –> 0:28:50.53 with utilization of that vaccine.

0:28:50.53 –> 0:28:52.778 And then the other area is that

0:28:52.78 –> 0:28:56.204 we're seeing this kind of

0:28:56.21 –> 0:28:58.8 increase in the number of cancer survivors,

0:28:58.8 –> 0:29:01.576 so even folks who are unfortunate to

0:29:01.576 –> 0:29:03.932 receive a diagnosis, cancer survival

0:29:03.932 –> 0:29:06.939 for many cancers is going up as well,

0:29:06.94 –> 0:29:09.46 and I think some of that you

0:29:09.46 –> 0:29:11.38 know a lot of that,

0:29:11.38 –> 0:29:13.585 is attributable to these advances

0:29:13.585 –> 0:29:15.82 in diagnostic or treatment technologies.

0:29:15.82 –> 0:29:18.04 But to some extent as well

0:29:18.04 –> 0:29:19.89 people trying to,

0:29:19.89 –> 0:29:22.11 you know, reduce or quit smoking,

0:29:22.11 –> 0:29:23.22 eat healthier diets,

0:29:23.22 –> 0:29:25.07 maintaining a healthy body weight.

0:29:25.07 –> 0:29:27.05 All of these things are

0:29:27.05 –> 0:29:28.39 only going to help.

0:29:29.11 –> 0:29:31.474 Doctor Michaela Dinan is an associate

0:29:31.474 –> 0:29:33.465 professor of chronic disease Epidemiology

0:29:33.465 –> 0:29:35.95 at the Yale School of Public Health.

0:29:35.95 –> 0:29:37.474 If you have questions,

0:29:37.474 –> 0:29:38.998 the address is canceranswers@yale.edu

0:29:38.998 –> 0:29:41.102 and past editions of the program

0:29:41.102 –> 0:29:43.022 are available in audio and written

0:29:43.086 –> 0:29:44.688 form at yalecancercenter.org.

0:29:44.69 –> 0:29:47.242 We hope you'll join us next week to

0:29:47.242 –> 0:29:49.709 learn more about the fight against

0:29:49.709 –> 0:29:52.728 cancer here on Connecticut Public Radio.