

<p style="text-align: center;">COMMISSION OF INQUIRY ON HORMONE RECEPTOR TESTING</p> <p style="text-align: center;">BEFORE THE HONOURABLE JUSTICE CAMERON - COMMISSIONER</p> <p style="text-align: center;">October 6, 2008</p> <p>Appearances:</p> <p>Bernard Coffey, Q.C. Commission Co-counsel Sandra Chaytor, Q.C. Commission Co-counsel</p> <p>Jackie Brazil, Q.C. Her Majesty in Right of NL</p> <p>Peter Browne, Q.C./Jane Hennebury . . . Doctors Kara Laing et al</p> <p>Daniel Simmons Eastern Regional Integrated Health Authority</p> <p>Laura Brocklehurst. Members of the Breast Cancer Testing Class Action</p> <p>Mark Pike, Q.C. NL Medical Association Jennifer Newbury Canadian Cancer Society (NL Division) Blair Pritchett. . . . Central, Western and Labrador-Grenfell Regional Integrated Health Authorities</p>	<p style="text-align: center;">LIST OF EXHIBITS</p> <p>EXHIBITS P-3348 AND P-3349 Pg. 5</p> <p>EXHIBITS P-3353 AND P-3354 Pg. 5</p> <p>EXHIBIT P-3355 Pg. 123</p>
<p style="text-align: center;">TABLE OF CONTENTS</p> <p>DR. ADAM BRUFISKY - SWORN</p> <p>Examination by Sandra Chaytor, Q.C. Pgs. 4 - 126</p> <p>Examination by Daniel Simmons Pgs. 126 - 161</p> <p>Examination by Jennifer Newbury Pgs. 161 - 172</p> <p>Re-examination by Sandra Chaytor, Q.C. Pgs. 172 - 218</p> <p>Examination by Madam Commissioner Pgs. 218 - 224</p> <p>Certificate</p>	<p style="text-align: right;">Page 4</p> <p>1 THE COMMISSIONER:</p> <p>2 Q. Please be seated. Ms. Chaytor?</p> <p>3 CHAYTOR, Q.C.:</p> <p>4 Q. Good morning, Commissioner. The next witness</p> <p>5 is Dr. Adam Brufsky.</p> <p>6 DR. ADAM BRUFISKY, SWORN, EXAMINATION BY SANDRA CHAYTOR,</p> <p>7 Q.C.</p> <p>8 REGISTRAR:</p> <p>9 Q. Would you please state and spell your complete</p> <p>10 name for the Commission?</p> <p>11 DR. BRUFISKY:</p> <p>12 A. Sure. Adam Matthew Brufsky, B-R-U-F-S-K-Y.</p> <p>13 REGISTRAR:</p> <p>14 Q. Thank you.</p> <p>15 DR. BRUFISKY:</p> <p>16 A. You're welcome.</p> <p>17 CHAYTOR, Q.C.:</p> <p>18 Q. Good morning, Dr. Brufsky.</p> <p>19 DR. BRUFISKY:</p> <p>20 A. Good morning.</p> <p>21 CHAYTOR, Q.C.:</p> <p>22 Q. Commissioner, we have a few new exhibits this</p> <p>23 morning, which I would ask please to have</p> <p>24 entered. They are P-3348, P-3349, P-3353 and</p> <p>25 P-3354.</p>

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1 THE COMMISSIONER:
 2 Q. Entered.
 3 EXHIBITS ENTERED AND MARKED EXHIBITS P-3348 AND P- 3349
 4 EXHIBITS ENTERED AND MARKED EXHIBITS P-3353 AND P- 3354
 5 CHAYTOR, Q.C.:
 6 Q. Thank you. If we could have, please,
 7 Registrar, P-3348? Doctor, this is your
 8 curriculum vitae. Perhaps if you could just
 9 take us through the highlights of your
 10 educational and professional background?
 11 DR. BRUFISKY:
 12 A. Sure.
 13 CHAYTOR, Q.C.:
 14 Q. And with emphasis, of course, on your
 15 experience related to breast cancer and breast
 16 cancer treatment.
 17 DR. BRUFISKY:
 18 A. Sure. I graduated from Dartmouth College, now
 19 this is 23 years ago, no, 25 years ago, was a
 20 MD PhD student at the University of
 21 Connecticut. I received a PhD simultaneously
 22 with my MD. My PhD was in developmental
 23 biology and molecular genetics. I then was an
 24 intern in internal medicine at Harvard Medical
 25 School, Brigham Women's Hospital. That was

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1 followed by a residency in internal medicine
 2 at Brigham Women's Hospital, and at Harvard
 3 Medical School, they had a program for people
 4 who have an MD and a PhD and it was called
 5 short tracking, and what happens is that if
 6 you know you're going to be doing research,
 7 you skip your final year of medical residency
 8 and you become a clinical fellow, which I did
 9 in medical oncology at the Dana-Farber Cancer
 10 Institute. I was a clinical fellow for one
 11 year and then I was a fellow in Bone Marrow
 12 Transplantation for about three months. I
 13 followed that with three years of research,
 14 both clinical and basic science research at
 15 Harvard Medical School.
 16 In 1996, I was recruited to the
 17 University of Pittsburgh, initially to do
 18 prostate cancer actually, but within six
 19 months of my arrival there, most of the people
 20 who did breast cancer actually left, and so
 21 since I was a junior faculty, they asked me to
 22 become one of the breast cancer specialists
 23 and so I turned my practice and my research to
 24 breast cancer.
 25 CHAYTOR, Q.C.:

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1 Q. And what year would that have been?
 2 DR. BRUFISKY:
 3 A. About 1997, late '96 actually, within six
 4 months of getting there, so that was '96. I
 5 was successful in starting a clinical trials
 6 program in breast cancer there, as well as a
 7 clinical research program and a clinical
 8 program in medical oncology in breast cancer.
 9 When I started, we were seeing 50 new patients
 10 a year with breast cancer. Currently -
 11 CHAYTOR, Q.C.:
 12 Q. I'm sorry, how many?
 13 DR. BRUFISKY:
 14 A. 50.
 15 CHAYTOR, Q.C.:
 16 Q. 50.
 17 DR. BRUFISKY:
 18 A. When I started. Currently, we see over 1, 000
 19 new patients, just with breast cancer in
 20 medical oncology, just for medical oncology
 21 purposes. It's about 2,000 if you include the
 22 surgical cancers as well. We have
 23 approximately 10 to 20 clinical trials of
 24 novel therapies in breast cancer that occur at
 25 any one time and we put approximately 300

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1 women on cancer clinical trials yearly. My
 2 own particular practice there, well, because I
 3 founded this program, within a couple of
 4 years, they made me associate director and now
 5 I am currently director of the comprehensive
 6 breast cancer program for the University of
 7 Pittsburgh, which basically administratively
 8 manages the operations of our breast cancer
 9 program, as well as the scientific direction
 10 of the program. I personally see about 300 to
 11 400 new breast cancer cases a year and my
 12 practice is almost entirely breast cancer.
 13 CHAYTOR, Q.C.:
 14 Q. Okay, thank you. Is your mouse working,
 15 Doctor?
 16 DR. BRUFISKY:
 17 A. No, my mouse is not working.
 18 CHAYTOR, Q.C.:
 19 Q. Mine is seized up as well. That's what I was
 20 just noticing here.
 21 DR. BRUFISKY:
 22 A. Oh, there we go, you can control it.
 23 CHAYTOR, Q.C.:
 24 Q. Every now and then we have a little technical
 25 issue.

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1 DR. BRUFISKY:
 2 A. That's okay. You can control the mouse, if
 3 you want to just flip through it.
 4 CHAYTOR, Q.C.:
 5 Q. No, I can't either.
 6 DR. BRUFISKY:
 7 A. You can't either.
 8 CHAYTOR, Q.C.:
 9 Q. Our Registrar will help us.
 10 THE COMMISSIONER:
 11 Q. (Inaudible) slightly earlier version, allow
 12 you to do it.
 13 CHAYTOR, Q.C.:
 14 Q. So Doctor, in your studies though, in terms of
 15 your residency, you didn't have any particular
 16 sub-specialty or concentration in breast
 17 cancer?
 18 DR. BRUFISKY:
 19 A. No, I actually concentrated, in fellowship, in
 20 prostate cancer, and actually, I did work
 21 though in a laboratory on the estrogen
 22 receptor, believe it or not.
 23 CHAYTOR, Q.C.:
 24 Q. You worked in a laboratory?
 25 DR. BRUFISKY:

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1 A. I was in--yes, so what happened when I was a
 2 clinical fellow, I took, after my one year of
 3 clinical fellowship in 19--this is 1995, no,
 4 actually earlier, I think it was '93/94 or
 5 '92/93, I then took three years to do research
 6 in a laboratory and that laboratory actually
 7 was a laboratory that studied various aspects
 8 of the estrogen receptor. I personally
 9 started the androgen receptor, trying to do a
 10 lot of the same research that was analogous to
 11 the estrogen receptor on the androgen receptor
 12 itself, trying to figure out various things.
 13 We were trying to figure out why estrogen
 14 binding to its receptor had different effects
 15 on different tissues and so my job was to try
 16 to do the same thing for the receptor for
 17 androgen. I had done some work on the
 18 cortisol receptor when I was a medical
 19 student, so it kind of fit with my interest.
 20 CHAYTOR, Q.C.:
 21 Q. So you would have spent, obviously then, a
 22 proportionate amount of time in the lab which
 23 other medical oncologists would not normally
 24 get in their residency?
 25 DR. BRUFISKY:

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1 A. Correct. This is not a clinical lab. This is
 2 a research laboratory. Although in the U.S.
 3 most--to get Board certification by the
 4 American Board of Internal Medicine, you have
 5 to do at least 12 to 18 months of some form of
 6 research. So most medical oncologists, at
 7 least in the United States, have to have some
 8 experience with research techniques. It could
 9 be basic, it could be clinical. It really
 10 depends on the fellow.
 11 CHAYTOR, Q.C.:
 12 Q. And that would put them in a laboratory
 13 setting or have some knowledge -
 14 DR. BRUFISKY:
 15 A. Potentially. Probably, I would say currently
 16 in our program, we have 21 fellows at any one
 17 time in any of the three years total. I would
 18 say of the 21, about seven to eight actually
 19 are doing basic science research of some kind.
 20 CHAYTOR, Q.C.:
 21 Q. Okay, and I think our technical problem is
 22 solved, if you would like to take us through -
 23 DR. BRUFISKY:
 24 A. You can keep going, okay.
 25 CHAYTOR, Q.C.:

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1 Q. I'll take you through and you can stop me at
 2 any point.
 3 DR. BRUFISKY:
 4 A. Sure.
 5 CHAYTOR, Q.C.:
 6 Q. So this indicated that you are, as you say,
 7 now the director of academic medical oncology.
 8 DR. BRUFISKY:
 9 A. Yeah, so what happened also is that I was--we
 10 integrated a large private practice into our
 11 academic practice about five years ago and I
 12 was very involved in that, and after that, I
 13 became associate chief of the division of
 14 hematology oncology at the University of
 15 Pittsburgh and so that's a position where I'm
 16 responsible for the clinical and financial
 17 direction of 26 medical oncologists.
 18 CHAYTOR, Q.C.:
 19 Q. Okay, and then is there anything in terms of
 20 your--you have a number of publications.
 21 DR. BRUFISKY:
 22 A. Yeah, most of the--I have--well, this is
 23 actually an order version of my CV. I have
 24 right now about 54 to--about 55 to 60
 25 publications and the vast majority of them are

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1 in breast cancer related topics.
 2 CHAYTOR, Q.C.:
 3 Q. Okay.
 4 DR. BRUFISKY:
 5 A. Although some of my earlier work was in
 6 glucocorticoid receptors and prostate cancer.
 7 After about, I would say 1998, 1999, the vast
 8 majority of my publications are on breast
 9 cancer.
 10 CHAYTOR, Q.C.:
 11 Q. Okay. If we look at page 34 of the exhibit,
 12 flip you through here.
 13 DR. BRUFISKY:
 14 A. You're just going through a number of clinical
 15 trials.
 16 CHAYTOR, Q.C.:
 17 Q. Yes, okay, these are clinical trials that
 18 you've been involved in, okay, and at page 34,
 19 we see a number of invited lectures and I
 20 think this goes on for -
 21 DR. BRUFISKY:
 22 A. Currently, I think there's about 180. I don't
 23 know how much are on there.
 24 CHAYTOR, Q.C.:
 25 Q. 180 or so there.

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1 DR. BRUFISKY:
 2 A. Yeah.
 3 CHAYTOR, Q.C.:
 4 Q. And a number of those appear to be tumour
 5 board and oncology grand rounds. Perhaps you
 6 could just explain to the Commissioner what
 7 this section of your resume is all about?
 8 DR. BRUFISKY:
 9 A. So generally, there are several things that
 10 happen. I can be giving an invited lecture on
 11 a topic in breast cancer or I could actually
 12 be invited to a tumour conference, a multi-
 13 disciplinary conference where there are
 14 medical oncologists, pathologists, surgeons,
 15 radiation therapists, radiologists, some of
 16 the support staff, where cases are presented
 17 and I discuss them and discuss the current
 18 treatment of those particular cases. There's
 19 a number of those tumour boards in there.
 20 CHAYTOR, Q.C.:
 21 Q. Okay, and so for example, the first one is a
 22 tumour board in -
 23 DR. BRUFISKY:
 24 A. Right, that was when I was first recruited.
 25 That was prostate cancer.

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1 CHAYTOR, Q.C.:
 2 Q. Back in 1996.
 3 DR. BRUFISKY:
 4 A. Correct, but there are other tumour boards
 5 that are later on that are breast cancer.
 6 CHAYTOR, Q.C.:
 7 Q. Okay.
 8 DR. BRUFISKY:
 9 A. Like number 19, for example.
 10 CHAYTOR, Q.C.:
 11 Q. And then you have, for example, at 19, yes,
 12 you have metastatic breast cancer therapy.
 13 DR. BRUFISKY:
 14 A. Correct.
 15 CHAYTOR, Q.C.:
 16 Q. Number 22, we have Grand Rounds at St.
 17 Joseph's Hospital, Burbank, California, Beyond
 18 Tamoxifen. Perhaps you could just tell us
 19 what this was about. This is October 1998.
 20 DR. BRUFISKY:
 21 A. That was a long time ago. It's ten years ago.
 22 But at that time, there was a lot of interest
 23 in the new class of drugs aromatase inhibitors
 24 and I had done some work on that. I know that
 25 you have had prior witnesses that have talked

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1 a little bit about aromatase inhibitors, but
 2 literally, that was right about the time where
 3 aromatase inhibitors were starting to enter
 4 clinical practice. As an expert in aromatase
 5 inhibitor therapy, the vast majority of my
 6 talk involved aromatase inhibitors and their
 7 use, both in prevention of breast cancer,
 8 which is a hot topic currently, as well
 9 treatment of metastatic breast cancer.
 10 CHAYTOR, Q.C.:
 11 Q. Okay, and then it continues on. You have, for
 12 example, number 33. You have Grand Rounds
 13 Highland Hospital, Rochester, New York,
 14 Advances in the Treatment of Metastatic Breast
 15 Cancer and that's about a year later.
 16 DR. BRUFISKY:
 17 A. Yeah, and again, a lot of that has not only to
 18 do with the hormonal therapy of metastatic
 19 breast cancer, but various novel therapies.
 20 Over the years, one of the things that I have
 21 sub-sub-specialized in is the treatment of
 22 metastatic breast cancer. I've been involved
 23 in most of the major clinical trials in North
 24 America in metastatic breast cancer, a variety
 25 of different therapies, and clinically, my

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1 experience, I have probably one of the largest
 2 practices in metastatic breast cancer in North
 3 America, and as a result, you know, people ask
 4 me to talk about my experience and my
 5 involvement in a lot of clinical trials.
 6 CHAYTOR, Q.C.:
 7 Q. Okay, and number 54, it's Grand Rounds and
 8 this one is in Allentown, Pennsylvania.
 9 DR. BRUFISKY:
 10 A. Yeah.
 11 CHAYTOR, Q.C.:
 12 Q. Adjuvant Therapy for Breast Cancer in the year
 13 2001.
 14 DR. BRUFISKY:
 15 A. Correct.
 16 CHAYTOR, Q.C.:
 17 Q. And what do you mean by Grand Rounds? What's
 18 that, in your world?
 19 DR. BRUFISKY:
 20 A. So Grand Rounds is the entire hospital. So
 21 there are oncology grand rounds. There are
 22 medical grand rounds. So it's usually a
 23 conference at eight a.m. or lunch time,
 24 depending on when people can get their food
 25 tends to be a good inducement, and we tend to-

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1 -it tends to be, in the case of medical grand
 2 rounds, the entire medical staff of internists
 3 generally, surgeons occasionally. Oncology
 4 grand rounds are more the multi-disciplinary
 5 staff involved in the treatment of cancer.
 6 CHAYTOR, Q.C.:
 7 Q. Okay, and you would be invited to speak or
 8 present at grand rounds throughout--we're
 9 seeing different places here certainly within
 10 the United States.
 11 DR. BRUFISKY:
 12 A. Correct.
 13 CHAYTOR, Q.C.:
 14 Q. And number 61, Grand Rounds, the Medical
 15 Centre at Beaver, Pennsylvania, Hormonal
 16 Therapy of Breast Cancer, and then we're up to
 17 the year 2002.
 18 DR. BRUFISKY:
 19 A. Correct. Around that time, we were talking
 20 about the trials comparing Tamoxifen to
 21 aromatase inhibitors and how long to use both
 22 therapies. Into the early part of the decade,
 23 it was a very contentious topic.
 24 CHAYTOR, Q.C.:
 25 Q. Okay, and again, then we see in number 77,

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1 Tumour Board, Jefferson Regional Medical
 2 Centre, Pittsburgh, Breast Cancer Adjuvant
 3 Treatment, and this is then a year later,
 4 October 16th, 2003.
 5 DR. BRUFISKY:
 6 A. Yes.
 7 CHAYTOR, Q.C.:
 8 Q. And in January then of 2004, you're at Tumour
 9 Board in State University New York, Stonybrook
 10 New York, and this refers to the San Antonio
 11 Breast Cancer Symposium updated January 22nd,
 12 2004.
 13 DR. BRUFISKY:
 14 A. So what that is, is again, what a lot of
 15 hospitals and medical programs around the
 16 United States like is the perspective of an
 17 expert on the major medical meetings, and the
 18 San Antonio Breast Symposium is one of the two
 19 major medical meetings involved with breast
 20 cancer yearly. There's American Society of
 21 Clinical Oncology, which is usually in late
 22 May or early June, and then the San Antonio
 23 Breast Symposium which is usually in mid
 24 December, and what a lot of people do is they
 25 have an expert come and comment on the

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1 research that they felt was important, and
 2 that's what that was involved with.
 3 CHAYTOR, Q.C.:
 4 Q. Okay. So you would be invited then after the
 5 San Antonio Symposium?
 6 DR. BRUFISKY:
 7 A. Correct, to summarize various abstracts and
 8 presentations at the Symposium, yes.
 9 CHAYTOR, Q.C.:
 10 Q. And if we look at around 155, we see San
 11 Antonio Breast Cancer Conference. So is this
 12 your attendance at the conference?
 13 DR. BRUFISKY:
 14 A. No, I attend the conference also, and that's
 15 more in the abstract section of my CV. I
 16 usually present or my group presents at least
 17 four to five abstracts every year at San
 18 Antonio and about four to five at ASCO on
 19 various topics.
 20 CHAYTOR, Q.C.:
 21 Q. Okay, yes, and this is, you're right, this is
 22 the abstract section. So you would actually
 23 be presenting annually at that Symposium?
 24 DR. BRUFISKY:
 25 A. Yes, at both ASCO and San Antonio, as well as

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1 other meetings around the world.
 2 CHAYTOR, Q.C.:
 3 Q. And in terms of the use of tumour boards,
 4 tumour board rounds and oncology rounds within
 5 your institution, are you able to say what
 6 importance or significance that has in terms
 7 of a teaching tool and a tool for
 8 communication within your discipline?
 9 DR. BRUFISKY:
 10 A. Oncology grand rounds we have, I mean, I'll
 11 just describe how they work. We have oncology
 12 grand rounds for all of the oncologists, which
 13 are held weekly on a Wednesday morning at
 14 eight a.m., and those are usually outside
 15 speakers that come in, just like I have come
 16 in to there. In fact, we often do a trade.
 17 You know, I'll give a talk at one institution
 18 and they'll come and give a talk at my
 19 institution, but we--it's generally an
 20 educational session on some important topic, a
 21 review of some aspect of oncology. We have a
 22 weekly specific breast cancer tumour board and
 23 cancer conference, and at that, we not only--
 24 that generally is to review perspectively our
 25 own cases, which is a little bit different,

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1 and we educate ourselves around those
 2 particular cases.
 3 CHAYTOR, Q.C.:
 4 Q. And is that multi-disciplinary?
 5 DR. BRUFISKY:
 6 A. It is. So it involves all the members of the
 7 breast cancer team.
 8 CHAYTOR, Q.C.:
 9 Q. Which would include pathologists as well?
 10 DR. BRUFISKY:
 11 A. Pathologists, medical oncologists, radiation
 12 therapists, surgeons, genetics, genetic
 13 counsellors, pathology techs. I'm trying to
 14 think of--just about anybody you would expect
 15 that would be involved in a cancer activity.
 16 Social workers, that sort of thing.
 17 CHAYTOR, Q.C.:
 18 Q. And would that--would every new patient go
 19 through then your tumour board rounds?
 20 DR. BRUFISKY:
 21 A. It used to be that way, and in fact, the
 22 reason we have these and we have it for a
 23 number of different reasons, but in the United
 24 States, most or most big cancer programs are
 25 accredited by the American College of Surgeons

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1 Commission on Cancer or the Council on Cancer,
 2 and there are specific requirements that you
 3 have to have that are reviewed by the
 4 Commission every three years. So you're
 5 reviewed every three years by the Commission.
 6 One of those requirements is to have a multi-
 7 disciplinary panel review at least ten percent
 8 of all of your analytic cases for that year.
 9 It used to be that we tried to review every
 10 case, but -
 11 CHAYTOR, Q.C.:
 12 Q. And why has that changed?
 13 DR. BRUFISKY:
 14 A. Because we've become very busy.
 15 CHAYTOR, Q.C.:
 16 Q. You've gone from 50 to 1,000.
 17 DR. BRUFISKY:
 18 A. 50 to 1,000, so because of that, we obviously
 19 can't review every case or we'd there for days
 20 at a time. The conference is one hour a week
 21 or one and a half hours every week, on a
 22 Thursday afternoon, and so we've actually
 23 changed it to review cases that make important
 24 points about various aspects of our practice.
 25 CHAYTOR, Q.C.:

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1 Q. So in a centre such as we have here where
 2 there'd be approximately 350 new cases a year,
 3 the multi-disciplinary approach to care and
 4 treatment, that could probably happen if you
 5 had those kinds of numbers?
 6 DR. BRUFISKY:
 7 A. Absolutely. I mean, I think that at a
 8 minimum, you could review--to meet the
 9 Commission on Cancer's recommendations, you
 10 could review 30 or 35. That would actually
 11 meet that recommendation, as long as you
 12 review ten percent of the cases.
 13 CHAYTOR, Q.C.:
 14 Q. And is this, is part of the purpose of your
 15 review of the case to determine treatment
 16 options as well?
 17 DR. BRUFISKY:
 18 A. Yes, absolutely. In fact, the purpose of the
 19 review is to determine treatment options on
 20 each patient, to review any discrepancies that
 21 may have come up, any questions any member of
 22 the treatment team may have, yes.
 23 CHAYTOR, Q.C.:
 24 Q. And if we could go, please, Registrar, to page
 25 17? And I was noticing here in your CV, and

Page 25

1 again, this talks about abstracts. Number 66
 2 and 67 are abstracts which have been presented
 3 at St. Gallen's?
 4 DR. BRUFISKY:
 5 A. Correct.
 6 CHAYTOR, Q.C.:
 7 Q. Okay, and perhaps you could just tell us about
 8 that, your involvement with St. Gallen's?
 9 DR. BRUFISKY:
 10 A. So my involvement, St. Gallen's, so what the
 11 St. Gallen's conference does is that every
 12 other year, they meet, they review the current
 13 treatment of breast cancer, review all the
 14 state-of-the-art treatment and there are
 15 abstracts that discuss this treatment, both in
 16 oral presentations and poster presentations.
 17 These are actually two poster presentations at
 18 St. Gallen's. And then at the end, there's a
 19 group of investigators that meet. It's an
 20 international panel of experts that meets,
 21 reviews the literature and then comes up with
 22 recommendations that last two years.
 23 CHAYTOR, Q.C.:
 24 Q. Okay.
 25 DR. BRUFISKY:

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1 A. And so this research was actually on side
 2 effects of aromatase inhibitors. I've been
 3 involved--I'm the principal investigator of a
 4 national trial or an international trial
 5 looking at drugs called bisphosphonates that
 6 prevent bone loss from aromatase inhibitors,
 7 which is the major side effect of aromatase
 8 inhibitors, and so it's just presenting this
 9 data. And this was actually presented at the
 10 St. Gallen's Conference, for the reason of
 11 trying to figure out whether we should be
 12 recommending bisphosphonates as therapy to
 13 prevent bone lost from aromatase inhibitors,
 14 whether that should have been part of the
 15 recommendation of the St. Gallen's conference
 16 in 2007. It probably--it was not, in 2009 it
 17 probably will be, but in 2007, the evidence
 18 wasn't quite there yet.
 19 CHAYTOR, Q.C.:
 20 Q. Okay, and in terms of the Commissioner has
 21 heard of consensus statements that come out of
 22 St. Gallen's.
 23 DR. BRUFISKY:
 24 A. Correct.
 25 CHAYTOR, Q.C.:

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1 Q. And how would you and your colleagues then
 2 stay apprised or become aware of those
 3 consensus statements?
 4 DR. BRUFISKY:
 5 A. They're published and they're disseminated
 6 through the medical literature. So the St.
 7 Gallen's Conference, I believe I have the
 8 meeting highlights here. This is one
 9 particular journal, which I think is Annals of
 10 Oncology, which is a European journal, and
 11 they are disseminated through that and
 12 generally, we would talk about them in our--in
 13 our particular breast cancer conference, we
 14 would talk about them. We'd actually have a
 15 session where we would go over the St.
 16 Gallen's recommendations. We would present at
 17 patient or two and say "well, how do the new
 18 St. Gallen's recommendations apply to this
 19 particular patient." So we would actually go
 20 through this in our breast cancer conference.
 21 CHAYTOR, Q.C.:
 22 Q. And would you automatically adopt that then as
 23 your practice or would it be done through -
 24 DR. BRUFISKY:
 25 A. Not necessarily. I mean, I think we

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1 critically evaluate them. I think we, at
 2 least, believe, in our institution, that we
 3 have enough independent experience that we can
 4 kind of evaluate these consensus statements,
 5 which really are no more than an expert panel,
 6 based on their own clinical experience and
 7 their own evaluation of the literature. We
 8 can base their recommendations against ours.
 9 Generally we adopt them, generally we do. I
 10 mean, they're very general. The St. Gallen's
 11 criteria are generally fairly general. They
 12 leave a lot of leeway for adoption.
 13 CHAYTOR, Q.C.:
 14 Q. Okay, and other than--other than your weekly
 15 tumour board rounds, what other interaction
 16 would you have in the normal course with
 17 pathologists?
 18 DR. BRUFISKY:
 19 A. The general interaction I have with
 20 pathologists, we don't have a formal
 21 mortality, morbidity conference. We tend to
 22 use our breast conference for this sort of
 23 thing, if there is some sort of complication
 24 of a procedure. Thankfully, in the breast
 25 cancer business there are very few major

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1 surgical complications that need M and M
 2 review. It's more discrepancies in pathology,
 3 that sort of thing, discrepancies in
 4 radiology, system issues that we have to deal
 5 with in these conferences. But in terms of my
 6 interaction with pathologists, I'm very
 7 fortunate in that the pathologists are right
 8 around the corner, they're on the same floor
 9 as my clinic. So I'm on the fourth floor, the
 10 pathologist lab is literally on the fourth
 11 floor, as well. When I see a new patient, for
 12 example, I will obviously as a medical
 13 oncologist look at the pathology report and if
 14 there is something on the report that doesn't
 15 make sense to me or just doesn't seem to--I
 16 have questions about, I will call the
 17 pathologist on the phone. And generally there
 18 will be a pathologist on call at all times.
 19 So if the original pathologist who hasn't
 20 signed out that case is not there, someone
 21 else will be there to discuss it with.

22 CHAYTOR, Q.C.:
 23 Q. Okay, and would you also then if there is an
 24 unexpected finding on the pathology report,
 25 something that appears to be inconsistent with

Page 30

1 either the diagnosis or your understanding of
 2 the case, is that something then you would
 3 bring up at your weekly tumour board rounds?

4 DR. BRUFISKY:
 5 A. Yes, yes, we would.

6 CHAYTOR, Q.C.:
 7 Q. And discuss as a group?

8 DR. BRUFISKY:
 9 A. Yes, yes.

10 CHAYTOR, Q.C.:
 11 Q. And other than the--obviously you attend
 12 symposiums and conferences. How else do you
 13 and your colleagues keep apprised and current
 14 in your field and the changes that happen at a
 15 fairly rapid pace?

16 DR. BRUFISKY:
 17 A. So with the internet it's--I mean, everybody
 18 has their own way of doing it. Generally a
 19 lot of us do it through the internet, so, you
 20 know, we'll review abstracts that come out of
 21 the major meetings, we'll review the abstracts
 22 or scan--most of the major journals are
 23 delivered to us via e-mail, so the vast
 24 majority of us will get our information that
 25 way.

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1 CHAYTOR, Q.C.:
 2 Q. Okay. And, Doctor, I don't know if there is
 3 anything else I've--that's about what I was
 4 going to cover in your CV, unless there's
 5 anything else that you wanted to point out or
 6 speak to?

7 DR. BRUFISKY:
 8 A. No.

9 CHAYTOR, Q.C.:
 10 Q. Okay. At the time then in the 1992, I guess
 11 it was, to '95 when you did your medical
 12 oncology residency, your fellow in medical
 13 oncology then in Boston, what method was used
 14 for carrying out ER/PR testing at that point
 15 in time?

16 DR. BRUFISKY:
 17 A. At the time it was the Ligand binding assay.
 18 And I know that because I had to do it myself
 19 on samples in the laboratory, so -

20 CHAYTOR, Q.C.:
 21 Q. And when was your first experience then with
 22 the IHC method?

23 DR. BRUFISKY:
 24 A. IHC method really was not--I mean, it was
 25 beginning to be developed toward the late

Page 32

1 '90s. So really kind of when I was already an
 2 attending, I would have to say. I mean, the
 3 Ligand binding assays were used maybe for two
 4 years, again, '96, '97, '98, probably '98,
 5 '99, that area, we first started doing
 6 immunohistochemistry.

7 CHAYTOR, Q.C.:
 8 Q. Okay, and at that point in time, in 1998, 1999
 9 when your first introduction to the IHC
 10 method, what was being utilized then as the
 11 cutoff for positivity?

12 DR. BRUFISKY:
 13 A. We generally used ten percent. I don't recall
 14 ever using 30 percent or any other number.

15 CHAYTOR, Q.C.:
 16 Q. Okay. And we've heard, of course, the 30
 17 percent number here.

18 DR. BRUFISKY:
 19 A. Correct.

20 CHAYTOR, Q.C.:
 21 Q. Are you aware of any literature in terms of
 22 where that 30 percent -

23 DR. BRUFISKY:
 24 A. Actually, no. As a medical oncologist, I'm
 25 not.

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1 CHAYTOR, Q.C.:

2 Q. Okay. What--perhaps you could just tell us

3 briefly, and the Commissioner has heard some

4 evidence on this, but it might be helpful to

5 hear from you about the significance of ER/PR

6 testing in your practice?

7 DR. BRUFISKY:

8 A. Well, it's an incredibly important test

9 because it really speaks to one of the most

10 effective therapies we have for breast cancer.

11 Anti-hormonal therapy is probably the most

12 effective therapy we have for breast cancer.

13 And knowing whether a woman has estrogen and

14 progesterone responsive breast cancer is

15 extremely important in knowing what therapy to

16 design for her one way or the other.

17 CHAYTOR, Q.C.:

18 Q. Okay, and so what criteria would you use to

19 determine if a patient is a candidate for

20 anti-hormonal therapy?

21 DR. BRUFISKY:

22 A. Well, presently in 2008 I would use ten

23 percent of the cells being positive. Now,

24 there's been a lot of debate over the last

25 several years of several consensus panels and

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1 I know, I think you've heard evidence prior to

2 me about the use of one to ten percent. I

3 think that's somewhat controversial. And I

4 think amongst my colleagues some use it as low

5 as one percent. I personally do not. I do not

6 believe that there is a enough responsiveness

7 in someone who has estrogen receptor levels

8 less than ten percent to make hormone therapy

9 worthwhile.

10 CHAYTOR, Q.C.:

11 Q. Okay, and in terms of other criteria that you

12 would look at or other things peculiar to your

13 patient, obviously you put a lot of reliance

14 on the outcome in the hormone receptor test,

15 but what other criteria do you -

16 DR. BRUFISKY:

17 A. So in other words, though--I kind of

18 understand where this question is going. So

19 what factors do I used to determine -

20 CHAYTOR, Q.C.:

21 Q. Yeah.

22 DR. BRUFISKY:

23 A. - what therapy a woman has?

24 CHAYTOR, Q.C.:

25 Q. Yes.

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1 DR. BRUFISKY:

2 A. So -

3 CHAYTOR, Q.C.:

4 Q. In terms of hormone therapy.

5 DR. BRUFISKY:

6 A. Versus a hormone therapy?

7 CHAYTOR, Q.C.:

8 Q. Yes.

9 DR. BRUFISKY:

10 A. The biggest--I mean, I think that there are a

11 lot of factors that go into what therapy a

12 woman has. And I'll tell you kind of the pre

13 2006 way of doing it and then the post 2006

14 way of doing it. Before, in 2006, 2007 there

15 was a test called oncotype DX that I'll talk

16 about a little bit in a minute that I think

17 has changed things a little bit. But

18 generally what we do when a woman comes to us,

19 we look at the size of the cancer, which is

20 basically it's T stage, the number of lymph

21 nodes, which is the N stage, and then whether

22 it's metastatic or not outside of the breast

23 in regional lymph nodes. Those are very

24 important. We look at the age of the patient

25 and whether she's pre and whether she's pre or

Page 36

1 post menopausal, whether there are any co-

2 morbidities, that is, whether the woman is

3 fairly sick looking or fairly healthy looking

4 and then put it all together to come up with a

5 treatment plan. Generally the big question

6 that we have in a woman who is estrogen

7 receptor positive that is sensitive to

8 hormonal therapy is whether she should get

9 chemotherapy in addition to hormonal therapy.

10 I think most people will treat women now, no

11 matter what the tumour size is, as long as the

12 estrogen receptors are greater than ten

13 percent. I think the vast majority of

14 oncologists in the United States and in my

15 practice would give somebody either Tamoxifen

16 in the case of an estrogen receptor positive

17 in a woman who's pre-menopausal or an

18 Aromatase inhibitor such as Arimidex in the

19 case of someone who's postmenopausal.

20 However, the art of oncology, to some degree,

21 until very recently, was trying to figure out

22 who needs chemotherapy in addition to that.

23 Now, to help us out there has been a new test

24 that's been developed called oncotype DX

25 that's widely available in the United States,

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1 I'm not sure how available it is in Canada
 2 right now. But what that is is that we take
 3 three paraffin slices, ten micro slices of the
 4 tumour and send it to a company in California,
 5 Genomic Health, and we look at the expression.
 6 There is a way of actually looking at RNA in
 7 paraffin embedded tissues that they've
 8 developed and actually optimized it and
 9 developed it. And they look at the expression
 10 of 16 genes. And statistically they have come
 11 up with a model where they can total that up
 12 into one number called a recurrence score. If
 13 that recurrence score is greater than 30 based
 14 on some retrospective studies that they've
 15 done, generally women will benefit from
 16 chemotherapy. If it's less than 30, she may
 17 not benefit as much. And so there's actually
 18 a debate about what cutoff to use and whatnot.
 19 But oncotype DX, at least for lymph node
 20 negative breast cancer, is rapidly becoming a
 21 very common, commonly used assay to try to
 22 figure out whether we should be using
 23 chemotherapy in addition to hormonal therapy.
 24 CHAYTOR, Q.C.:
 25 Q. Okay.

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1 DR. BRUFISKY:
 2 A. So these are the sort of things, at least the
 3 more recent things that are being done now.
 4 CHAYTOR, Q.C.:
 5 Q. Okay, and how important is the degree of
 6 positivity or the percent of positivity -
 7 DR. BRUFISKY:
 8 A. Extremely. I mean, I think that generally it
 9 used to be that our pathologists did not
 10 report degree of positivity. We've gone
 11 through cycles of this.
 12 CHAYTOR, Q.C.:
 13 Q. Okay. And when did that change, when -
 14 DR. BRUFISKY:
 15 A. It kind of, there was a period where they
 16 reported it, then--they've always reported
 17 percentages, but now they've gotten a little
 18 bit more detailed than that and I'm sure Dr.
 19 Dabbs may have talked about this, but they
 20 report something called and H score.
 21 CHAYTOR, Q.C.:
 22 Q. Yes, he told us that.
 23 DR. BRUFISKY:
 24 A. Which is kind of how many cells stain, for
 25 example, like there's one plus, two plus and

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1 three plus and a H score is generally a single
 2 number that tells us how many score--how many
 3 cells have stained with each intensity. And
 4 generally the H score is fairly important to
 5 us. I think that Dr. Dabbs, who is a world
 6 class immunohistochemist is trying to get us
 7 to move away from the oncotype DX test, which
 8 he thinks is redundant, and so he reports to
 9 us in great detail the degree of estrogen
 10 receptor positivity. And we believe that if a
 11 patient has a very estrogen receptor positive
 12 tumour, her response to chemotherapy will
 13 likely be less and her response to hormonal
 14 therapy will likely be more. But in terms of
 15 a cutoff for the use of the therapy, I'd still
 16 say we use H scores, but still, if I don't have
 17 an H score, ten percent ER positivity is
 18 generally what I use.
 19 CHAYTOR, Q.C.:
 20 Q. Okay, and but you would expect a patient who
 21 is 80 percent ER positive to respond better to
 22 anti-hormonal therapy than a patient who is 20
 23 percent?
 24 DR. BRUFISKY:
 25 A. Potentially. I think the better way to say it

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1 is I would expect a woman who has an estrogen
 2 receptor positive score, say, a H score of
 3 300, which is as high as it can go, and maybe
 4 have other characteristics of her cancer maybe
 5 a lower tumour grade, a smaller size to not
 6 respond as well to chemo. I think it's--I
 7 would say it's the opposite of that. As
 8 opposed to the absolute response of hormonal
 9 therapy, it's hard to know whether a woman who
 10 is 20 percent ER responds better than a woman
 11 who is 80 percent ER. I think there is some
 12 literature that could go back that way. I
 13 look at it as women who are very high, who
 14 have tumours that are very high ER generally
 15 will not have as good a response to
 16 chemotherapy.
 17 CHAYTOR, Q.C.:
 18 Q. Is there also a difference in how a patient
 19 will respond to hormonal therapy depending if
 20 they're ER and PR positive versus one or the
 21 other?
 22 DR. BRUFISKY:
 23 A. That's a good question. And I think that it
 24 used to be that we thought, and there is some
 25 literature I think has been presented here

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1 already, looking back to the website that you
 2 have, where that appear to be the case.
 3 However, I have in one of my exhibits here
 4 recent data from the San Antonio Breast
 5 Symposium that was presented by Sir. Richard
 6 Peto a year ago, almost a year ago at the San
 7 Antonio 2000 Breast Symposium. And I don't
 8 know what exhibit you called that.
 9 CHAYTOR, Q.C.:
 10 Q. We have the--3349, I believe.
 11 DR. BRUFISKY:
 12 A. Yeah, and so just going through this really
 13 briefly, and really the important part of
 14 this, I think, is -
 15 CHAYTOR, Q.C.:
 16 Q. And you can just take us through if you wish
 17 in the--on the exhibit with your mouse,
 18 Doctor.
 19 DR. BRUFISKY:
 20 A. Sure, I can do that. That would be easier to
 21 do. Let's make sure my mouse is working.
 22 CHAYTOR, Q.C.:
 23 Q. Is your mouse working?
 24 DR. BRUFISKY:
 25 A. Hold on, I think so.

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1 CHAYTOR, Q.C.:
 2 Q. Okay, that's fine.
 3 DR. BRUFISKY:
 4 A. Either--there we go.
 5 CHAYTOR, Q.C.:
 6 Q. I'll take you through then.
 7 DR. BRUFISKY:
 8 A. This just shows that mortality is decreased.
 9 You can go--you can pass through this slide.
 10 CHAYTOR, Q.C.:
 11 Q. Okay.
 12 DR. BRUFISKY:
 13 A. And you don't need that part either. So these
 14 are trials, actually, of five years of
 15 Tamoxifen. So what the meta-analysis is, you
 16 may--I think Dr. Laing discussed this a little
 17 bit in her presentation, looking through her
 18 transcript, but there is what's called the
 19 meta-analysis that Dr. Peto and his colleagues
 20 around the world have come up with, and what
 21 they do is every five years or so they look at
 22 the results of all the clinical trials that
 23 have been done, roughly, in breast cancer of a
 24 certain type. And so this is the important
 25 thing on page 5, these are trials of estrogen-

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1 -of Tamoxifen versus no Tamoxifen. And these
 2 are on women who are estrogen receptor
 3 negative and progesterone receptor negative.
 4 And what you can see here is that there's no
 5 benefit to Tamoxifen. The ten-year recurrence
 6 rate is about 28 to 29 percent, as you can see
 7 on the left-hand side of the panel. And then
 8 the patients that are ER poor, PR positive,
 9 you can see here there's no difference either.
 10 So progesterone receptor by itself does not
 11 appear to be a predictive factor for benefit
 12 to Tamoxifen. Let me go back one here. Oh,
 13 actually, let me go up one. Now, looking at
 14 it a different way, women--if you look at the
 15 right-hand side of these, in the ten year,
 16 this is now the ten year recurrence re
 17 survival, what you can see here that if you're
 18 estrogen receptor positive, progesterone
 19 receptor positive, your recurrence rate is 38
 20 percent, but it's 25 percent with Tamoxifen.
 21 But if you now look at the left-hand panel,
 22 the estrogen receptor positive, progesterone
 23 receptor negative patient population, the
 24 benefit is about the same. The control group
 25 has a 44 percent recurrence rate versus 29

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1 percent when given Tamoxifen. So if you're ER
 2 positive, PR positive, your overall--your
 3 survival rates are a little bit better, but
 4 the absolute benefit you get from Tamoxifen is
 5 the same. So most of the predictive effects
 6 of ER and PR come from ER, not PR. At least
 7 that's my interpretation of this. Now, again
 8 -
 9 CHAYTOR, Q.C.:
 10 Q. And that would have been patients with primary
 11 disease?
 12 DR. BRUFISKY:
 13 A. This is all patients with primary breast
 14 cancer.
 15 CHAYTOR, Q.C.:
 16 Q. Yes.
 17 DR. BRUFISKY:
 18 A. We have very little data from meta-analysis.
 19 We have one meta-analysis, actually, from 1998
 20 that was done with metastatic breast cancer,
 21 but that's all with chemotherapy. There's
 22 very little hormonal therapy meta-analysis.
 23 There's one, but it's not divided based on
 24 ER/PR status and content. So the bottom line
 25 is that PR at least for the adjuvant setting,

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1 for prevention of breast cancer recurrence
 2 does not appear to be a predictive factor and
 3 it's a minor prognostic factor, at least in my
 4 opinion. This is still fairly new data. In
 5 fact, it's not been published yet, but it will
 6 probably be published. The meta-analysis this
 7 is based on will likely be published in the
 8 next year.
 9 CHAYTOR, Q.C.:
 10 Q. Okay. And well then perhaps you can discuss
 11 for us the use of hormonal therapy in the
 12 adjuvant setting versus in the metastatic
 13 setting?
 14 DR. BRUFISKY:
 15 A. Sure, okay.
 16 CHAYTOR, Q.C.:
 17 Q. I'm sorry, is there anything else, though, on
 18 this?
 19 DR. BRUFISKY:
 20 A. No, no, no, no, no, this doesn't have that on
 21 it. I was just going through to see what -
 22 CHAYTOR, Q.C.:
 23 Q. Is there anything else, though, in this before
 24 we leave it?
 25 DR. BRUFISKY:

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1 A. No, no, no. This is fine. I mean, basically
 2 I could just show you just a few more things.
 3 CHAYTOR, Q.C.:
 4 Q. Yeah, sure, take us through it, yeah.
 5 DR. BRUFISKY:
 6 A. Again, just ER positive patients are the ones
 7 that, it just shows you breast cancer
 8 mortality on page 8. Just go back to page 7.
 9 Now, this is recurrence. Just showing you
 10 that most of the benefit really ER is a good
 11 predictor. And that's pretty much it from
 12 this, these slides. The difference between
 13 metastatic treatment and adjuvant treatment.
 14 Adjuvant treatment, what you're trying to do
 15 is you're making an assumption that there's
 16 micro metastatic disease throughout someone's
 17 body, based on the characteristics of her
 18 primary tumour that you can't see by any
 19 imagining technology. And the idea behind
 20 adjuvant hormonal therapy is to suppress those
 21 micro metastatic deposits so they can either
 22 be eliminated by immune system or just never
 23 grow to a case where they will cause the
 24 patient problems. In metastatic breast cancer
 25 generally clinically detectable metastatic

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1 breast cancer has tumour deposits in the order
 2 of a billion cells or more and it is next--at
 3 least with the current thinking, it's thought
 4 that it's not possible to eliminate every
 5 single one of those cells that have escaped
 6 beyond the lymph nodes, the regional lymph
 7 nodes. In that case the goals of metastatic
 8 hormonal therapy are mostly to delay
 9 progression of the disease, not so much as be
 10 palliative, that is, it is to relieve
 11 symptoms, but it's also to delay progression
 12 of symptoms. It turns out that there is a
 13 little bit of data that suggests there's
 14 probably a small survival benefit to women in
 15 the metastatic setting getting inter-hormonal
 16 therapy, but it's small. The goals generally
 17 are to delay progression of the disease and
 18 prevent symptoms in someone who has metastatic
 19 breast cancer.
 20 CHAYTOR, Q.C.:
 21 Q. So to try and get more symptom-free time for
 22 the patient?
 23 DR. BRUFISKY:
 24 A. Correct. It's we call the symptom-free
 25 interval.

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1 CHAYTOR, Q.C.:
 2 Q. Yes.
 3 DR. BRUFISKY:
 4 A. That's right.
 5 CHAYTOR, Q.C.:
 6 Q. And if we could look, please, at P-3353?
 7 DR. BRUFISKY:
 8 A. Yeah, this is actually relevant. This was
 9 actually presented last week in the New
 10 England Journal of Medicine, this particular
 11 case. And this is actually an example of
 12 several things. A multidisciplinary case
 13 conference, number one, and number two, the
 14 discussion about a particular patient in a
 15 multidisciplinary conference. And this
 16 particular woman, who was 47, who was peri-
 17 menopausal or pre-menopausal had a breast lump
 18 with a lesion in her spine that was biopsied
 19 and found to be estrogen receptor positive,
 20 and that's actually shown on the next page.
 21 You can see how the staining of these cells
 22 actually works, if you haven't seen it in
 23 this-I don't know -
 24 CHAYTOR, Q.C.:
 25 Q. Okay.

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1 DR. BRUFISKY:
 2 A. - controlling the mouse here. This is on page
 3 4, I believe, of the exhibit.
 4 CHAYTOR, Q.C.:
 5 Q. Okay, just scroll down there.
 6 DR. BRUFISKY:
 7 A. And this is the spinal biopsy just showing the
 8 lesion and the fact that it's estrogen
 9 receptor positive. I think that's panel D.
 10 CHAYTOR, Q.C.:
 11 Q. Panel D, so this -
 12 DR. BRUFISKY:
 13 A. That just shows how the immunohistochemical
 14 stain is done. And this is very positive.
 15 And so this is a woman who actually was
 16 treated, the bottom line to this case is that
 17 this woman had a little bit of back pain and
 18 was treated with anti-hormonal therapy. She
 19 was treated with LHRH agonist and that's to
 20 put her in menopause, that suppresses her
 21 estrogen levels, and was given, I believe,
 22 Tamoxifen, as well, in combination. So this
 23 is how this woman was treated. Now, it's
 24 interesting in that in oncology, at least in
 25 breast cancer oncology, the thought was that

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1 we wouldn't treat someone locally, so we would
 2 not treat her primary tumour because the
 3 cancer had already escaped and spread to the
 4 lymph nodes, spread to the bone. But it turns
 5 out that hormonal therapy has done such a good
 6 job, as we've found we've gotten better and
 7 better at figuring out who we treat, that in a
 8 woman like this her survival could be five
 9 years or longer and that it then becomes
 10 important for us to consider treating her
 11 local cancer. And, in fact, that's what a lot
 12 of the discussion of this case is about,
 13 discussing whether they should treat her local
 14 cancer or not. In fact, what happened to this
 15 woman and the conclusion of this case is that
 16 she was treated with hormonal therapy and two
 17 years later she presented with a new cancer in
 18 her other breast. So new primary cancers do
 19 become an issue. In fact, this is really at
 20 the cutting edge of breast oncology right now
 21 is in women with very little metastatic
 22 disease, are they essentially cured of their
 23 disease or do they live long enough to get new
 24 cancers and should we do screening - should we
 25 be screening these women now for new primary

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1 breast cancers that may affect them in the
 2 future. So breast cancer oncology is changing
 3 continuously, at least the thinking about how
 4 to manage women like this.
 5 CHAYTOR, Q.C.:
 6 Q. And in terms of the treatment of pre-
 7 menopausal women, was there some change in the
 8 thinking in the late 1990s regarding the
 9 hormonal treatment of pre-menopausal women?
 10 DR. BRUFISKY:
 11 A. No, I think - well, in the adjuvant setting,
 12 yes. I think in the adjuvant setting, it was
 13 felt that at least until 2000 - actually,
 14 there was a consensus conference at the
 15 National Cancer Institute, but until 2000, it
 16 was felt that pre-menopausal women should not
 17 be treated in the adjuvant setting with
 18 hormonal therapy. It was about 2000 when I
 19 think that changed. It was the '98 or the
 20 2000 consensus conference. In the late 1990s,
 21 there was a conference that felt there was
 22 enough benefit from drugs like Tamoxifen, for
 23 example, in these women. After that point,
 24 most women began to be treated--pre-menopausal
 25 women began to be treated with Tamoxifen.

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1 CHAYTOR, Q.C.:
 2 Q. Perhaps you can tell us then the benefits of
 3 Tamoxifen. For example, in this case, as
 4 you're aware, 2005 is when the look back began
 5 in terms of looking at patients who had been
 6 diagnosed, and the look back went all the way
 7 back to 1997 and some of those patients who,
 8 in fact, were diagnosed in 1997, then in 2005
 9 and 2006 were actually offered Tamoxifen or
 10 some related treatment. Does the benefit of
 11 hormonal therapy diminish the further in time
 12 you are removed from diagnosis?
 13 DR. BRUFISKY:
 14 A. That's an interesting question, and I think
 15 that the initial thinking was, yes, that the
 16 longer you were away from diagnosis,
 17 specifically in the adjuvant setting, the less
 18 benefit you would get, and I think that
 19 generally still is true, so - there still is
 20 benefit, however, and I know you have an
 21 article here that, I think, was Exhibit 2582.
 22 CHAYTOR, Q.C.:
 23 Q. Okay, we can bring that up, please.
 24 DR. BRUFISKY:
 25 A. That you presented previously about that, and

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1 I think that, in and of itself, is with
 2 Tamoxifen. It's an old study, but there is
 3 newer data actually from a Canadian trial, MA
 4 17, that was done by the NCI of Canada, and in
 5 that trial women were on Tamoxifen for five
 6 years and they then were randomized to receive
 7 Letrozole, an aromatase inhibitor, or no
 8 therapy. These were post-menopausal women,
 9 and after two and a half years the benefit was
 10 so substantial for the women receiving
 11 Letrozole that the trial was discontinued.
 12 They had an anonymous committee that looked at
 13 the trial, realized there was a huge benefit,
 14 it was unethical to continue and they stopped
 15 the trial. At that point, there was a cohort
 16 of women, about 2500, who had not received any
 17 hormonal therapy for two years. They were
 18 allowed to receive at their benefit either
 19 Letrozole or no Letrozole, and it turns out
 20 about two-thirds of those women, so about 1600
 21 women received Letrozole, 600 chose not to,
 22 and those women were then compared and it
 23 turns out that there still was a substantial
 24 benefit, a prevention of new primary breast
 25 cancers, a prevention of recurrence that

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1 occurred in the women who had no therapy for
 2 two years and then suddenly went back on -or
 3 two to three years, and then suddenly went
 4 back on Letrozole. So the bottom line to this
 5 is that there is benefit of not only extended
 6 hormonal therapy, but of reinstatement of
 7 hormonal therapy if you haven't had it for a
 8 few years. That's what that trial shows us.
 9 The one question we can't answer is whether
 10 that benefit is the same as if someone started
 11 that therapy from scratch and continued it.
 12 CHAYTOR, Q.C.:
 13 Q. Yes, in that trial -
 14 DR. BRUFSKY:
 15 A. I don't think anybody knows the answer to that
 16 yet.
 17 CHAYTOR, Q.C.:
 18 Q. In that trial, they had been on it, and
 19 stopped, and then went back to it?
 20 DR. BRUFSKY:
 21 A. Correct, yes. So we don't know whether the
 22 benefits are the same, and I think people are
 23 trying to figure out ways of potentially
 24 analysing that data to get at that answer, but
 25 right now we don't have that answer. We know

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1 there is a benefit, we just don't know whether
 2 it's the same degree as if they had continued
 3 the therapy from the start.
 4 CHAYTOR, Q.C.:
 5 Q. We certainly have a class of those patients
 6 now here in Newfoundland and Labrador.
 7 DR. BRUFSKY:
 8 A. Correct.
 9 CHAYTOR, Q.C.:
 10 Q. Doctor, so in terms of the reduction of the
 11 risk of recurrence, are you able to say what
 12 percentage of patients tend to benefit from
 13 Tamoxifen?
 14 DR. BRUFSKY:
 15 A. Women who have an estrogen receptor - I think
 16 if I'm understanding correctly, women who have
 17 an estrogen receptor level of 10 percent or
 18 greater have at least a reduction in the risk
 19 of recurrence in proportional terms of about
 20 one-third to one-half. So if a woman walks in
 21 and we predict her risk of recurrence as 15
 22 percent with no therapy at all, if she were to
 23 go on Tamoxifen, if she had estrogen receptor
 24 positive breast cancer, if she were to go on
 25 Tamoxifen for five years, her reduction and

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1 risk of recurrence would be about 5 to 7
 2 percent in absolute terms.
 3 CHAYTOR, Q.C.:
 4 Q. And it depends, I guess, in the absent of
 5 benefit, depends on the risk?
 6 DR. BRUFSKY:
 7 A. Absolute benefit is determined by the absolute
 8 risk without a therapy, correct.
 9 CHAYTOR, Q.C.:
 10 Q. And this article, we'll just take you to the
 11 end here, 2582, page five. The conclusion in
 12 this particular - and again, as you say, this
 13 is dated, it's 1999, and accepted in March of
 14 2000.
 15 DR. BRUFSKY:
 16 A. Right, this is a very - the conclusions are
 17 very similar to the MA-17 conclusions with
 18 Letrozole, which says basically that giving
 19 Tamoxifen several years after surgery, even if
 20 it's delayed by two or more years, is still of
 21 benefit.
 22 CHAYTOR, Q.C.:
 23 Q. Okay.
 24 DR. BRUFSKY:
 25 A. And again this is the only trial of its kind.

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1 There are no other studies like this that are
 2 out there. I mean, the only trials really
 3 that are out there now with Tamoxifen that are
 4 remaining are trials of five years versus ten,
 5 and even those trials are not designed very
 6 well. It's been very difficult to kind of
 7 figure out whether that data is useful or not,
 8 I guess, is a good word to use.
 9 CHAYTOR, Q.C.:
 10 Q. So in terms then of the benefits of the
 11 hormonal therapy, what are the potential
 12 effects of not having received the appropriate
 13 hormonal therapy at the time of diagnosis?
 14 DR. BRUFISKY:
 15 A. I would say a high risk of recurrence,
 16 specifically in that time that they were not
 17 receiving the hormonal therapy.
 18 CHAYTOR, Q.C.:
 19 Q. And could it be that patients may have
 20 received inappropriate therapy, for example,
 21 chemotherapy, that they may not have otherwise
 22 received?
 23 DR. BRUFISKY:
 24 A. Yes, I think that if someone came to me and
 25 had an estrogen receptor negative tumour, say,

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1 that was two centimetres in diameter and she
 2 was, say, 45 or 50 years old, I would give her
 3 chemotherapy. If she came to me and that
 4 tumour was strongly estrogen receptor
 5 positive, I may have had second thoughts on
 6 whether to give her chemo, yes.
 7 CHAYTOR, Q.C.:
 8 Q. And is there also - so there's an increased
 9 risk of recurrence?
 10 DR. BRUFISKY:
 11 A. Yes.
 12 CHAYTOR, Q.C.:
 13 Q. She may have received inappropriate therapy?
 14 DR. BRUFISKY:
 15 A. Correct.
 16 CHAYTOR, Q.C.:
 17 Q. Is there also an increased risk of death?
 18 DR. BRUFISKY:
 19 A. There is. I think that - again looking at
 20 these MED analysis figures, you can see
 21 actually if you want to go back to that
 22 exhibit, and I don't know what page it is.
 23 CHAYTOR, Q.C.:
 24 Q. Okay, that's P-3349. Thank you.
 25 DR. BRUFISKY:

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1 A. If we want to go back to that, I can show you.
 2 You can actually see this in the MED analysis
 3 data.
 4 CHAYTOR, Q.C.:
 5 Q. No, this is not the right one, it's 3349.
 6 There we go.
 7 DR. BRUFISKY:
 8 A. Let me go back to page - I believe it's page
 9 eight. So five years of - look in the left
 10 hand panel, five years versus not, ER positive
 11 only breast cancer mortality. So at fifteen
 12 years, these are women who did not receive
 13 Tamoxifen - these were women who received
 14 Tamoxifen for five years versus those who
 15 didn't. There is an absolute benefit of a
 16 little under - 9.3 percent, you can see right
 17 on the slide, 9.3 percent at fifteen years. At
 18 five years, it's 12.9 versus 8.9. So it's
 19 about 3.3 percent at five years. So there are
 20 clear benefits in mortality, the women not
 21 getting Tamoxifen versus getting it.
 22 CHAYTOR, Q.C.:
 23 Q. And in a situation such as occurred here where
 24 there was quite a number of patients that
 25 ultimately ended up on hormonal therapy that

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1 weren't originally at the time of diagnosis,
 2 in that situation, would time be of the
 3 essence in introducing their hormonal therapy?
 4 DR. BRUFISKY:
 5 A. I think so. I mean, you know, I think that
 6 there would have been some women like who
 7 would have received benefit immediately, and
 8 there may have - again it depends on the
 9 individual cases, it's hard to know without
 10 knowing the exact particular instance of each
 11 patient because the absolute benefit is going
 12 to be different in these patients. It's
 13 really going to depend on the various
 14 characteristics of that particular patient,
 15 but in general there would likely have been
 16 some women who did not receive Tamoxifen who
 17 likely would have recurred having not received
 18 it and potentially have died.
 19 CHAYTOR, Q.C.:
 20 Q. And in terms of - would it be of particular
 21 concern for patients with metastatic disease
 22 that they have their treatment introduced then
 23 as quickly as possible once the error was
 24 discovered?
 25 DR. BRUFISKY:

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1 A. Again that's a matter of debate, and I would
 2 have to say that there are oncologists who
 3 would say it doesn't matter if they're
 4 asymptomatic, that all the Tamoxifen is doing
 5 is preventing symptoms. However, there are
 6 other oncologists, and I probably fall in that
 7 camp, who would say the early introduced of
 8 Tamoxifen probably prevented these women from
 9 getting symptoms of their cancer for a number
 10 of months or years.

11 CHAYTOR, Q.C.:

12 Q. Okay. So for patients who have not had
 13 recurrence in their disease, those patients,
 14 could the effect of a - any of them, I guess,
 15 but if it's debatable in terms of metastatic,
 16 the effect of a further delay of weeks and
 17 perhaps months after the error has been
 18 detected in introducing then the appropriate
 19 treatment, could that have an effect?

20 DR. BRUFISKY:

21 A. I wouldn't say weeks. I would probably say
 22 more to months to years. I'd say that. You
 23 know, there's been a - again I think clearly
 24 getting hormonal therapy at any point, anti-
 25 hormonal therapy at any point in someone's

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1 disease process is a good thing, as we've
 2 seen, both for metastatic disease as well as
 3 adjuvant therapy. I think the sooner it's
 4 done, the closer to surgery, I think the
 5 better in the end of the day it will be for
 6 the patient, yes.

7 CHAYTOR, Q.C.:

8 Q. And so in terms of a delay of weeks, but when
 9 you get into months, two, three, four -

10 DR. BRUFISKY:

11 A. Weeks are probably not an issue. Months
 12 probably become more of an issue. I think our
 13 cutoff - generally in most clinical trials is
 14 what we've used, and we generally use eight to
 15 12 weeks before initiating therapy. So that
 16 probably works out to two to three months.

17 CHAYTOR, Q.C.:

18 Q. Okay, and the potential then negative effects
 19 of receiving therapy such as chemotherapy that
 20 otherwise might not have warranted, what are
 21 the potential negative effects of that?

22 DR. BRUFISKY:

23 A. Well, obviously there's hair loss, but that is
 24 a cosmetic effect that generally is resolved.
 25 Obviously, it's not good for the woman having

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1 it at the time. More importantly, however,
 2 there is a tiny risk of Leukemia, probably
 3 less than .1 percent. For most of the
 4 chemotherapies there is a risk of infection.
 5 With anthracycline chemotherapy such as
 6 adriamycin or epirubicine, there is a small,
 7 but significant, probably less than 1 in 500
 8 risk of heart damage, or in some rare cases
 9 heart failure. In the case of taxanes, like
 10 Taxol or Taxotere, there is some risk of
 11 neuropathy which can last upwards of two to
 12 three years, if not longer. Some nail
 13 changes, that sort of thing. So there are
 14 myriad side effects of chemotherapy that you
 15 can have.

16 CHAYTOR, Q.C.:

17 Q. Okay, and Doctor, is there any relationship
 18 between the aggressiveness of the cancer and
 19 one's receptor positivity?

20 DR. BRUFISKY:

21 A. Yes, generally, there's a general - there's a
 22 general relationship. The more aggressive a
 23 cancer or high grade it looks like under the
 24 microscope, the less estrogen receptor
 25 positives the cancers generally tend to be.

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1 CHAYTOR, Q.C.:

2 Q. Okay, and perhaps then you could just say a
 3 little more about the prognostic versus the
 4 predictive role of hormone receptor testing?

5 DR. BRUFISKY:

6 A. So predictive in that it predicts response to
 7 Tamoxifen. It's prognostic in that it tends
 8 to - it tends to prognosticate for slower
 9 growing tumours. In other words, when an
 10 oncologist goes in to see a patient, and again
 11 the Oncotype DX's that I talked about before
 12 is doing this more and more, but before the
 13 Oncotype DX is available, generally if someone
 14 comes in with a very high estrogen receptor
 15 content tumour, it's generally a slower
 16 growing lower grade tumour, which allows us to
 17 say to a woman you have a slower growing
 18 tumour, it is less - there is more things we
 19 can do for you, you know, maybe you don't need
 20 chemotherapy, we can treat you with Tamoxifen
 21 only, etc.

22 CHAYTOR, Q.C.:

23 Q. Okay, and can tumours evolve over time so that
 24 they use their hormone receptivity?

25 DR. BRUFISKY:

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1 A. Yes, and right now the current thinking is
 2 about 10 to 15 percent of breast cancers do
 3 that. What's really been very difficult, and,
 4 in fact, is one of the active areas that a lot
 5 of us are trying to push forward as research
 6 in breast cancer is that it's very difficult
 7 to harvest tissue from women once they've had
 8 metastatic disease. It's very difficult for
 9 me to ask a woman, gee, let me biopsy your
 10 liver, you know, or your lung or whatever,
 11 with a needle. We generally have to try to
 12 have accessible areas, say, in the skin, but
 13 even now we're getting better and better and
 14 the technology is getting better where we
 15 minimal morbidity we can actually now begin to
 16 biopsy some of these previously not as
 17 accessible areas like liver, like bone, like
 18 lung, and check to see whether the cells are
 19 estrogen receptor positive or not. It's
 20 interesting, I mean, I think that we don't
 21 even know - we don't even know, for example,
 22 if a woman has two different bone metastases,
 23 is one estrogen receptor positive and the
 24 other negative, if she has a liver and a bone
 25 metastasis, a liver and a bone metastasis, is

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1 the liver positive and the bone negative, we
 2 don't know the answers right now in oncology
 3 to these simple questions because really until
 4 very recently the technology to get these
 5 biopsies done in a very safe manner
 6 repetitively has not been here. So the short
 7 answer to your question is that probably 5 to
 8 15 percent of all estrogen receptor positive
 9 cancers will likely become negative over time.
 10 CHAYTOR, Q.C.:
 11 Q. Okay, and so, I take it then, you do wherever
 12 possible try and repeat the test and have
 13 hormone receptor test carried out on the
 14 metastatic area?
 15 DR. BRUFISKY:
 16 A. We try, but if you went around, at least in
 17 the US and looked in most major centres, I
 18 would say less than 5 percent to 10 percent of
 19 oncologists currently subscribe to that
 20 practice.
 21 CHAYTOR, Q.C.:
 22 Q. Okay, and what about the other way, can a
 23 tumour go from being negative to being
 24 positive?
 25 DR. BRUFISKY:

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1 A. Very, very uncommonly, and generally if that
 2 happens, we assume that potentially there was
 3 something wrong with the original staining on
 4 the primary tumour.
 5 CHAYTOR, Q.C.:
 6 Q. So that would cause you to question your
 7 original result if that happened?
 8 DR. BRUFISKY:
 9 A. Absolutely, yes, and we would go back to the
 10 primary tumour and see. We actually recently
 11 in our breast conference, now that you bring
 12 it up, actually had a case like that. We had
 13 a case where someone supposedly became
 14 estrogen receptor positive after having three
 15 or four different biopsies that were negative,
 16 not just one, but three or four, and that to
 17 us - at different institutions the biopsies
 18 were done, and we were all very mystified by
 19 that. We still are because it's a very rare
 20 occurrence if it happens the other way.
 21 CHAYTOR, Q.C.:
 22 Q. And does it matter if it's pre or post - if
 23 the person is pre or post-menopausal?
 24 DR. BRUFISKY:
 25 A. Not necessarily, no. I mean, I think that it

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1 used to be - what used to happen is that in
 2 the ligand binding assays that used to be
 3 done, say, before 1998, 1997, a pre-menopausal
 4 woman would have a lot of estrogen in their
 5 body, and so - and that would be - the way
 6 they did a ligand binding assay is you would
 7 apply radio-labelled estrogen, and you
 8 probably have talked about this in the past
 9 here, you'd apply a radio-labelled estrogen to
 10 a tissue sample. If there was already a lot
 11 of estrogen in that tissue sample, that could
 12 make it artificially low, would compete for
 13 the radio-labelled estrogen. So
 14 immunohistochemical tests don't do that. They
 15 generally look at the levels of the receptor
 16 and generally those sometimes correlate, in my
 17 opinion, to the degree of estrogen floating
 18 around, but not necessarily.
 19 Immunohistochemical assay generally is not as
 20 affected by estrogen receptor - peripheral
 21 estrogen in the tissues.
 22 CHAYTOR, Q.C.:
 23 Q. Unlike the ligand binding -
 24 DR. BRUFISKY:
 25 A. Unlike the ligand binding assay which was.

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1 CHAYTOR, Q.C.:

2 Q. And the case that you spoke about where you

3 were mystified that there were all these

4 biopsies which were negative and then

5 positive, I take it that was something that

6 was so rare that it caught your attention and

7 was the subject of discussion?

8 DR. BRUFISKY:

9 A. And we had presented at our breast cancer

10 conference one week and we talked about it for

11 about an hour; it was almost the entire

12 conference. Because, again, we had the

13 pathologist look at the tissue, re-stain it.

14 We actually had a pathologist re-stain the

15 tissue several times because as medical

16 oncologists we couldn't believe it, and the

17 surgeons, we looked at each other and we just

18 said this is so uncommon. But again, like any

19 phenomena in medicine, it happens, I mean, it

20 was just very uncommon.

21 CHAYTOR, Q.C.:

22 Q. And, Doctor, there are certain types of

23 cancers that an oncologist would expect to be

24 hormone receptor positive.

25 DR. BRUFISKY:

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1 A. Yes.

2 CHAYTOR, Q.C.:

3 Q. And perhaps you can tell us what those are?

4 DR. BRUFISKY:

5 A. The most important one of those is lobular

6 carcinoma, so invasive lobular carcinoma

7 traditionally are almost a hundred percent

8 positive. Now, that's changed over time as

9 we've gotten a little bit better at defining

10 what a lobular carcinoma is, so it's not quite

11 a hundred percent. It's probably, I would

12 still say in the current thinking it's still

13 85 to 90 percent positive.

14 CHAYTOR, Q.C.:

15 Q. Okay, and when did you learn that?

16 DR. BRUFISKY:

17 A. When I was a fellow.

18 CHAYTOR, Q.C.:

19 Q. And, Doctor, if you were to have a lobular

20 that, invasive lobular that showed ER

21 negativity, what would you do?

22 DR. BRUFISKY:

23 A. I would question it and again I would probably

24 have it retested.

25 CHAYTOR, Q.C.:

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1 Q. And is that true of any ER/PR test that

2 doesn't meet your expectations?

3 DR. BRUFISKY:

4 A. Pretty much, I mean, I think that again--I'll

5 give you another example, if someone comes in

6 with a very low grade cancer, you know, and we

7 grade cancers in a variety of different ways.

8 There's one that's probably been discussed

9 already, Nottingham Score, if someone came in

10 with a Nottingham four or five, I mean, which

11 is really low, no one is really Nottingham

12 four, but Nottingham five, with say a tubular

13 histology, it looked very benign looking under

14 the microscope and it came out as estrogen

15 receptor negative, I would call the

16 pathologist up and go, "are you sure?" if I

17 saw that on a pathology report, yes. But

18 again, breast cancer is all I do, so I used to

19 this. I think a general oncologist in

20 practice may not be as sensitive to some of

21 this.

22 CHAYTOR, Q.C.:

23 Q. And if we could have, please C-0156. This is

24 a pathology report here in St. John's from--it

25 was done in St. Clare's Mercy Hospital and

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1 it's the report of Peggy Deane and she's

2 referred to her as the index case from time to

3 time. And unfortunately Mrs. Deane is passed

4 away. Her original test was done and I

5 believe this to be July 8th, 2002 and it was

6 found immunohistochemical staining for

7 estrogen and progesterone receptors shows weak

8 staining for progesterone receptors in less

9 than 10 percent of lesion cells, negative

10 staining for estrogen receptors. And the

11 tumour was infiltrating lobular carcinoma.

12 And then on the next page under the microscopy

13 section, overall comment, "For the most part,

14 this tumour is comprised of a mixture of

15 lobular carcinoma in situ with invasive

16 lobular carcinoma. It is noted that both the

17 in situ as well as invasive components in

18 areas attain a somewhat ductal appearance,

19 however, this is not a prominent finding."

20 Doctor, so in July 2002 if you were to receive

21 this outcome in ER/PR, what, if anything,

22 would you have done?

23 DR. BRUFISKY:

24 A. Well I would call, I mean now, because I'm

25 sensitized to it in general having seen a lot

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1 of breast cancer, I would call the pathologist
 2 and I would go, "this is a lobular cancer, are
 3 you sure?" And even I remember cases of my
 4 own from 2002, 2003 where I actually did that,
 5 I called and I said, "this is a lobular
 6 cancer", I mean, let me give you another
 7 example that's maybe a little relevant. So
 8 what happens a lot of times given that we're a
 9 tertiary care referral centre, we'll get a lot
 10 of cases from--consult cases, people coming
 11 for second, third opinions, et cetera, and
 12 I'll get a report like this occasionally from
 13 a lab in a centre that doesn't have as high a
 14 volume, and I will actually have our
 15 pathologist--this is one of the things that I
 16 would then say, I would call--we would have
 17 our pathologist call that other pathology lab,
 18 have the tumour block sent to us and we would
 19 re-stain them if I saw this sort of thing. So
 20 this is clearly a red flag for me, I would
 21 say, if I did not--lobular cancers are almost,
 22 again, almost always estrogen and receptor
 23 positive.
 24 CHAYTOR, Q.C.:
 25 Q. And if I could have, please, C-0175? And,

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1 Doctor, this is another pathology report and
 2 in this particular case, I'll just take you
 3 to--there's two addendums. The first one is
 4 entered on May 6th, 2003 and then the second
 5 is May 9th, 2003 and this is entered on the
 6 patient's chart. "The stains have been
 7 delayed due to unavailability in the lab. When
 8 compared to controls, the specimen is negative
 9 for HER2/neu ER and PR." And then three days
 10 later, "The ER and PR were repeated due to
 11 quality assurance issues. The repeated stains
 12 show the following: ER positive in 80 percent
 13 of the cells; PR positive in 10 percent of the
 14 cells. This replaces the previous report
 15 phoned to the Cancer Clinic voice mail on May
 16 9th, 2003." Doctor, if this were--if you were
 17 to be presented with a report and three days
 18 later there were to be a change in the
 19 results, what would happen? What would you
 20 do?
 21 DR. BRUFISKY:
 22 A. Well, I mean, obviously it depends on when I
 23 would see the patient, so if I saw the patient
 24 before the addendum--this has happened, this
 25 happens quite a bit, actually, either labs

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1 aren't ready by the time the patient sees us
 2 for whatever reason or occasionally do get
 3 changed, I mean, if it's three days later, it
 4 generally, it would be okay.
 5 CHAYTOR, Q.C.:
 6 Q. If you hadn't already started any treatment or
 7 not started any treatment -
 8 DR. BRUFISKY:
 9 A. And generally within three days I wouldn't, I
 10 mean, the way things usually work is that, at
 11 least in our institution, is that a patient
 12 has her surgery and usually if she has drains
 13 put in, they're pulled out usually seven to
 14 fourteen days later. At that visit, they'll
 15 come to see me or a medical oncologist in my
 16 group and at that point usually the ER and PR
 17 are done by then.
 18 CHAYTOR, Q.C.:
 19 Q. Yes, in this case the ER and PR appear to have
 20 been done, the specimen is negative.
 21 DR. BRUFISKY:
 22 A. They done and were negative but then they
 23 suddenly became positive, but they were three
 24 days later, so if it's only three days later,
 25 that would be okay. If it was three months

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1 later, that's a different story.
 2 CHAYTOR, Q.C.:
 3 Q. In terms of patient care, yes, okay. What
 4 about in terms of any concern that it would
 5 raise to you that the repeated due to quality
 6 insurance issues, would this be the subject of
 7 any discussion, for example, in your tumour
 8 board rounds?
 9 DR. BRUFISKY:
 10 A. Possibly or I would probably call, for
 11 example, if this addendum came three weeks
 12 later to me and I had already talked to the
 13 patient about what her therapy is going to be
 14 and even thought about initiating it, what I
 15 would do is I would call up and I would call
 16 the lab and I would say, well what is the
 17 quality assurance issue, what exactly
 18 happened. I would call and ask. Again, three
 19 days, I probably wouldn't because quality
 20 assurance issues on the three day time flow
 21 could be anything and I think that, you know,
 22 not knowingly the inner workings of my
 23 pathology lab, again, I leave that to the
 24 pathologist, you know, systematically things
 25 happen, I mean bathes of formalin are bad or

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1 the fixation is bad or whatever and as long as
 2 they have, I'm assuming or I have to assume in
 3 my pathology lab that the quality controls are
 4 already in place, and so I'm assuming that
 5 this is just one of those things that happens
 6 and it doesn't happen that often. If it kept
 7 happening on every specimen I had, I would say
 8 there's something wrong. But one that
 9 happened, say once a month or once every
 10 couple of months, I would probably not
 11 question it if it was this sort a time period,
 12 three days. But if it was three weeks, three
 13 months, I would definitely say what happened.

14 CHAYTOR, Q.C.:

15 Q. And if we could have please, C-0228? And in
 16 this case I'll take you to--the original
 17 addendum is done in--the original test is
 18 March 17th, 2003 and ER/PR, the ER is
 19 occasional and positive, less than one percent
 20 and PR is 15 positivity, no controls
 21 available; and then addendum two, as
 22 requested, repeat estrogen and progesterone
 23 receptors and the ER is 40 percent and the PR
 24 is 73 percent.

25 DR. BRUFISKY:

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1 A. Go back to the actual pathology of the patient
 2 because what I would do with this really
 3 depends on the pathology of this particular
 4 lady. Well differentiated one centimeter
 5 tumour--or one by two, so it's a two
 6 centimeter tumour. This is a woman who, first
 7 of all I'm scratching my head, how could it be
 8 well differentiated but ER negative, but on
 9 the other hand I would say and she's N1 as
 10 well. This woman likely, let's see, why is
 11 she N1, did she have--let's see, number of
 12 lymph nodes, 13, so she had one lymph node
 13 involved--okay, so this woman had lump node
 14 positive breast cancer. I mean, I forgot her
 15 age, do you have the age there as well?

16 CHAYTOR, Q.C.:

17 Q. I don't know that we have, no it's blocked.

18 DR. BRUFISKY:

19 A. Can't see the age, but in this woman, in this
 20 particular case, this is someone who being
 21 lymph node positive would likely have received
 22 chemotherapy in any event. So in this case
 23 what would happen is she like would be in the
 24 middle of her chemotherapy when I got this
 25 report three months later. So while

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1 questioning why it took three months, it
 2 wouldn't have affected this particular woman
 3 because I would have given her hormonal
 4 therapy after, based on this. But I likely
 5 would have given her chemo anyway because of
 6 her lymph node positivity.

7 CHAYTOR, Q.C.:

8 Q. And would the change in result be the subject
 9 of discussion then amongst your group?

10 DR. BRUFISKY:

11 A. Potentially, again, if there were a few of
 12 these--this particular case changing, this
 13 particular one, probably not because it would
 14 have occurred during her chemotherapy. The
 15 assumption is this woman would have likely had
 16 chemotherapy. Now, again, not knowing this
 17 woman, let's say this woman for some reason
 18 couldn't get chemotherapy and received no
 19 therapy at all, and I got this report, you
 20 know, I told her to go home, get radiation
 21 therapy, do what you were going to do, and I
 22 got this report two months later, yeah, then I
 23 would bring it to my tumour committee because
 24 then it would have truly changed her
 25 treatment.

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1 CHAYTOR, Q.C.:

2 Q. So in terms of dealing with treatment, yes.

3 DR. BRUFISKY:

4 A. Yes, in terms of dealing with treatment it
 5 would change.

6 CHAYTOR, Q.C.:

7 Q. Okay, if we don't not think of it in terms of
 8 the treatment of the patient as opposed to
 9 what may or may not be happening in the lab
 10 and if you're seeing a change in result and
 11 the other one that I had brought you to a few
 12 minutes ago occurred in May, as well, of 2003
 13 and now we see a second one here with a
 14 changed result in May of 2003.

15 DR. BRUFISKY:

16 A. I would ask myself why are all these tumours
 17 changing in 2003, not knowing anything behind
 18 this, if I suddenly got a whole stack of
 19 reports that the tumours themselves have been
 20 changing, I would say what's wrong here, let's
 21 bring this to our breast cancer conference and
 22 discuss it, yes, that's what would have
 23 happened in our group.

24 CHAYTOR, Q.C.:

25 Q. And would any individual bring it forward,

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1 because, I mean, you may have had the first
 2 case and someone else, another oncologist may
 3 have had the second case -
 4 DR. BRUFISKY:
 5 A. Yeah, I think what would have happened was,
 6 right, this happens one of two ways, we have
 7 informal discussions among our colleagues and
 8 again we're lucky in that we're all
 9 geographically right in the same clinic. So
 10 someone could just walk over to me and say,
 11 "Gosh, Dr. Brufsky"--or "Adam, what's going
 12 on?" And we would say, yeah, let's go call
 13 the pathologist and find out what's going on
 14 and we would. But I think that the other way
 15 this would come out is that I would present
 16 this at the tumour conference and say, gosh,
 17 this is one of several I have had in the last
 18 three weeks or four weeks, you know, has
 19 anybody else had them? And then other people
 20 who were attending that breast cancer
 21 conference would say yes, I had one. And then
 22 suddenly we would realize and maybe go back
 23 and have to do some sort of quality control on
 24 all of the specimens or talk with pathologists
 25 about what's being done, yes.

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1 CHAYTOR, Q.C.:
 2 Q. And if we could have, please, C-0174?
 3 DR. BRUFISKY:
 4 A. But again, the key is that the therapy of the
 5 patients are so individualized that sometimes
 6 it's hard to, in the context of a busy
 7 practice pick up one particular one as opposed
 8 to another.
 9 CHAYTOR, Q.C.:
 10 Q. Yes. And this one is a little bit different
 11 in that it's a year, I believe, between the
 12 two tests.
 13 DR. BRUFISKY:
 14 A. And it was a lymph node, I believe it was two
 15 centimeters lymph node, it was a two
 16 centimeter tumour well differentiated, I was
 17 just glancing at that.
 18 CHAYTOR, Q.C.:
 19 Q. That's right, here we go.
 20 DR. BRUFISKY:
 21 A. Two centimeters, well differentiated, lymph
 22 node negative.
 23 CHAYTOR, Q.C.:
 24 Q. And so what does that tell you, Doctor, in
 25 terms of your expectations?

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1 DR. BRUFISKY:
 2 A. So, I mean, it depends how old the patient is,
 3 but this is someone who clearly could
 4 potentially get hormone therapy only and not
 5 chemotherapy. I think if this woman had an
 6 estrogen receptor negative tumour, I would
 7 have given her chemo. And if I got this back
 8 a year later, I would definitely would have
 9 brought this to our tumour board.
 10 CHAYTOR, Q.C.:
 11 Q. Okay, so this one in August 29th, 2002, she
 12 was immunohistochemical staining for
 13 progesterone receptors is positive in
 14 approximately 15 percent; immunohistochemical
 15 stain for estrogen is negative and at the
 16 request of Dr. Saidi and we know Dr. Saidi was
 17 a medical oncologist here at the time,
 18 immunohistochemical staining for ER and PR has
 19 been repeated and the ER showed faint staining
 20 now in approximately 10 to 15 and progesterone
 21 is 75 percent.
 22 DR. BRUFISKY:
 23 A. Yeah, faint in 10 to 15, I'm not sure I would
 24 have done, I mean, you're asking my opinion of
 25 what I would have in particular. Faint in

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1 about 10 to 15, I'm not sure that would have
 2 convinced me, but with a strong progesterone
 3 receptor staining there as a medical
 4 oncologist, I probably would have--I mean,
 5 this is clearly a lot more positive, I
 6 probably would have asked them to run this
 7 even again a third time, I would have asked to
 8 turn this a third time.
 9 CHAYTOR, Q.C.:
 10 Q. And if we could have, please, P-0489? And
 11 again, though, would that have been the
 12 subject of discussion, something that you
 13 would want to discuss amongst your group?
 14 DR. BRUFISKY:
 15 A. Yes.
 16 CHAYTOR, Q.C.:
 17 Q. And this is an e-mail exchange between Dr.
 18 Laing and Dr. Cliff Hudis from Sloan-
 19 Kettering.
 20 DR. BRUFISKY:
 21 A. Yes, I know Dr. Hudis well.
 22 CHAYTOR, Q.C.:
 23 Q. You know him well, okay.
 24 DR. BRUFISKY:
 25 A. Yes.

1 CHAYTOR, Q.C.:

2 Q. And what happened here in 2005 is Dr. Laing

3 contacted Dr. Hudis with Peggy Deane, I've

4 showed you her pathology report and on April

5 9th, 2005, she contacted him and gave a

6 summary of her treatment to date and I'm

7 wondering if basically they would have

8 anything else that could be offered to her at

9 Sloan-Kettering?

10 DR. BRUFISKY:

11 A. Yes, I get these e-mails a lot as well, yeah,

12 from people.

13 CHAYTOR, Q.C.:

14 Q. And, Doctor Hudis replied and said "ER and PR

15 negative, invasive lobular? Very rare to say

16 the least. If you are sure it is invasive

17 lobular, I would repeat the ER/PR. If it is

18 really ER/PR negative and she is -

19 DR. BRUFISKY:

20 A. Status (unintelligible) chemotherapies.

21 CHAYTOR, Q.C.:

22 Q. Thank you, and then he goes on from there.

23 DR. BRUFISKY:

24 A. Right.

25 CHAYTOR, Q.C.:

1 DR. BRUFISKY:

2 A. Right.

3 CHAYTOR, Q.C.:

4 Q. And his response then is "I'd try hormonal

5 therapy. I have never seen an ER/PR negative

6 invasive lobular. Signed Cliff." So even

7 without having the repeat test or him having

8 knowledge then that the test ultimately is

9 repeated and apparently is strongly positive,

10 he indicates that he would go with hormonal

11 therapy because he's never seen an ER/PR

12 negative in an invasive lobular.

13 DR. BRUFISKY:

14 A. Right, and very uncommonly when we have people

15 who come to us for second or third opinions,

16 and I'd see a lot of women like this with

17 metastatic breast cancer that have been

18 through a lot of different therapies, and, you

19 know, one of the things if they really are

20 ER/PR negative but you don't have very good

21 access to their primary tumour or that we

22 can't biopsy a metastatic lesion, I mean, I

23 think you could try it, I mean I think just to

24 try hormonal therapy anyway, you know, on

25 someone who has been through all of these

1 Q. And he says he doesn't have a clinical trial

2 option at this time.

3 DR. BRUFISKY:

4 A. Right. No, but he went through--you can read

5 in his response he went through the decision

6 tree that we would do, I mean, the first thing

7 is that is it really lobular? One thing you

8 can always ask is, yeah, it could be an ER/PR

9 negative tumour, but how sure is the

10 pathologist that it's lobular, so that's the

11 first question. The next question was, well

12 it could be metastatic rarely, very rarely you

13 get metastatic ovarian cancer to the breast,

14 this doesn't happen that often, but it could

15 look like a lobular cancer and so that's why

16 he suggests maybe use carbo plan. So he was

17 at least thinking of other things, but there

18 was clearly a lobular cancer as he said there,

19 it's very uncommon for it to be ER/PR

20 negative.

21 CHAYTOR, Q.C.:

22 Q. Yes. And then Dr. Laing responds, "ER was

23 negative and PR was weakly positive in less

24 than 10 percent, which we consider negative.

25 Can get it rechecked."

1 therapies wouldn't be a bad idea to do.

2 CHAYTOR, Q.C.:

3 Q. And if we could have, please, P-0046? And,

4 Doctor, this is a report which was an

5 independent review by a pathologist from

6 British Columbia who came in, in the fall of

7 2005 and I just want to bring you to one part

8 here under the "Incident Problem Case" which

9 we understand to be the Peggy Deane case. He

10 says, "The case is that of a patient with

11 invasive lobular carcinoma whose tumour was

12 tested in 2002 on the DAKO immunostainer and

13 reported as negative for ER and PR and when

14 retested in 2005 on the Ventana benchmark was

15 strongly positive for both receptor proteins.

16 It should be noted that invasive lobular

17 carcinomas are frequently ER positive 92

18 percent, thus the initial negative result

19 should have been questioned." When Dr.

20 Banerjee when he was here giving evidence at

21 the Commissioner, the reference that he gave

22 was, the reference that he gave here is a

23 2005, I believe, reference, but he indicated

24 that that would have been true as well in

25 2002.

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1 DR. BRUFISKY:
 2 A. Yes.
 3 CHAYTOR, Q.C.:
 4 Q. And in his opinion that both the pathologist
 5 and the oncologist should have questioned the
 6 result in 2002. Do you agree with that?
 7 DR. BRUFISKY:
 8 A. I would, yes. Again, I think as a--but I
 9 would have to say that I look at this from the
 10 standpoint of someone who does nothing but
 11 breast cancer. I think if someone has a
 12 varied practice, say, maybe sees 10 or 20
 13 breast cancer a year or 30, I'm not quite sure
 14 what the average oncologist in Newfoundland
 15 would see, but as someone who sees 350, I
 16 would question it. I clearly, at least the
 17 pathologist, I think should have questioned
 18 it.
 19 CHAYTOR, Q.C.:
 20 Q. Doctor, have you ever encountered a similar
 21 situation with your hormone receptor tests?
 22 DR. BRUFISKY:
 23 A. Yeah, I believe we had--there were a few tests
 24 that were not coming out correctly, this is
 25 maybe ten years ago at Magee.

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1 CHAYTOR, Q.C.:
 2 Q. So pre Dr. Dabb's days -
 3 DR. BRUFISKY:
 4 A. Pre, definitely before Dr. Dabb's, yes. And I
 5 think we had a similar situation. It was on a
 6 lot few patients, but apparently there were
 7 probably 10 or 15 women who, at some point,
 8 you know, either the controls weren't being
 9 done properly, we investigated it but it
 10 wasn't making sense, very similar to this,
 11 where there is a group of patients with
 12 invasive lobular cancer that appeared to have
 13 ER negative tumours, but we caught this fairly
 14 quickly. I mean, in our group, we went back
 15 and looked and said, you know, it was a bunch
 16 that suddenly occurred, I believe, within a
 17 few months and we looked through this in our
 18 group and the medical oncologists brought this
 19 to the attention of the pathologists.
 20 CHAYTOR, Q.C.:
 21 Q. So it was the medical oncologists who
 22 discovered it?
 23 DR. BRUFISKY:
 24 A. Yeah, and we discussed this in our case
 25 conference actually, in one of our breast

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1 cancer conferences in 1999, I think, or 2000.
 2 You know, we discussed this and went back and
 3 retested the specimens, found that in these
 4 cases, some of them were positive.
 5 CHAYTOR, Q.C.:
 6 Q. And so it was about 10 or 15 patients that you
 7 discovered?
 8 DR. BRUFISKY:
 9 A. I think so. I'm not--it was even less than
 10 that, but it was a small number. It was not
 11 anywhere near this number.
 12 CHAYTOR, Q.C.:
 13 Q. So it's something that was detected fairly
 14 quickly?
 15 DR. BRUFISKY:
 16 A. Yes, within a couple of months, yes.
 17 CHAYTOR, Q.C.:
 18 Q. And it was discovered through communication
 19 amongst the oncologists?
 20 DR. BRUFISKY:
 21 A. Correct, yes, that's what happened.
 22 CHAYTOR, Q.C.:
 23 Q. And Doctor, in terms of the patients in that
 24 case, were they informed beforehand that they
 25 were going to be retested?

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1 DR. BRUFISKY:
 2 A. Yeah, what we did was we went through the list
 3 of patients to determine whether it would have
 4 made a difference in their care. We actually
 5 had a meeting of a group, very similar, I
 6 think, to the meetings that have been
 7 described here, to determine whether it would
 8 make a difference in their care. We were
 9 going to inform them anyway, but I think we
 10 really needed to kind of meet to say "well,
 11 would this have made a difference?" Because
 12 that was the first question out of most
 13 people's mouths was "well, would it have made
 14 a difference?" If it wasn't going to make a
 15 difference in someone's care, then it wouldn't
 16 have mattered, say someone who had a very tiny
 17 cancer, you know, five millimetres, who we
 18 probably wouldn't have treated with hormonal
 19 therapy anyway at that point or someone who,
 20 again, had a tumour that maybe on retesting
 21 was estrogen receptor positive for five
 22 percent or six percent, probably would not
 23 have made a difference, and so we did it on a
 24 case-by-case basis. But everybody was
 25 informed regardless, but I think we had to

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1 figure out what the next step would be in most
 2 of them.
 3 CHAYTOR, Q.C.:
 4 Q. And they were informed before they were
 5 retested and then offered the opportunity to
 6 be retested?
 7 DR. BRUFISKY:
 8 A. Well, I think we retested everybody
 9 regardless.
 10 CHAYTOR, Q.C.:
 11 Q. Okay.
 12 DR. BRUFISKY:
 13 A. But we just told them that they were going to
 14 be retested.
 15 CHAYTOR, Q.C.:
 16 Q. Okay, and that might be a good place then to
 17 ask you about current quality assurance and
 18 best practices in your own institution.
 19 DR. BRUFISKY:
 20 A. Sure.
 21 CHAYTOR, Q.C.:
 22 Q. And how issues such as what we're dealing with
 23 here and on a smaller scale you dealt with in
 24 the past in your institution can be detected
 25 and what safeguards are really in place to

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1 allow for that. So perhaps you could tell us
 2 what it is you do in your institution in terms
 3 of quality assurance from an oncology point of
 4 view?
 5 DR. BRUFISKY:
 6 A. Well, if I can put it more on a global
 7 perspective. So most of the breast programs
 8 in the United States, at least the larger
 9 ones, are accredited by the Council on Cancer
 10 of the American College of Surgeons, and to be
 11 accredited by the Council on Cancer, it's a
 12 three-year accreditation. There are about 25
 13 to 30 percent of all cancer programs in the
 14 United States have this accreditation. You
 15 are reviewed on 36 criteria to meet this, and
 16 there are a variety of criteria. Some have to
 17 do with quality assurance and quality control.
 18 Some have to do with having a cancer
 19 committee. You have to have a cancer
 20 committee, multi-disciplinary cancer
 21 committee. It has to meet with some
 22 frequency, usually monthly. There has to be a
 23 tumour registry, where the characteristics of
 24 all the cancers that are seen in your
 25 institution, not only breast, but you know,

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1 ovarian, lung, etcetera, have to be registered
 2 in a registry and easily available for
 3 analysis and there has to be at least one
 4 quality assurance project yearly, based on the
 5 data in the registry, and that could be picked
 6 by the group, what that quality assurance
 7 project is. But there also have to be multi-
 8 disciplinary cancer conferences every week
 9 where, again, I think I discussed this
 10 earlier, where at least ten percent of all the
 11 cases need to be discussed, the analytic cases
 12 of your institution, and 75 percent of the
 13 cases have to be prospective discussion. That
 14 is, the discussion has to occur before the
 15 patient is treated. So in other words, so
 16 it's 75 percent of ten percent. So it's eight
 17 or nine percent of the cases totally have to
 18 be discussed prospectively.
 19 So that's the framework that we use for
 20 our quality control. So aside from the
 21 quality control that the pathologists do, as
 22 medical oncologists, we have quality control
 23 by doing various projects on our data on a
 24 yearly basis. And again, they're not the same
 25 projects every year. They're always somewhat

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1 different, but it could be how many women who
 2 are--I'll give you one example that was in
 3 our--from a year or two ago. How many women
 4 with stage one and two breast cancer that was
 5 estrogen receptor positive received the
 6 recommendation for hormonal therapy? So that
 7 was a quality control project we did where we
 8 went back to our registry, which actually
 9 records what therapy people get also, we go a
 10 little bit further, and we basically saw who
 11 was ER positive stage one and two breast
 12 cancer in the year, I think, 2005, and how
 13 many of those patients received Tamoxifen or
 14 an aromatase inhibitor. So those are the sort
 15 of things that we do.
 16 CHAYTOR, Q.C.:
 17 Q. Okay, and in terms of your multi-disciplinary
 18 committee that you referred to, there's
 19 recently been here at Eastern Health has
 20 established a breast disease site group.
 21 Perhaps I'll just show you the terms of
 22 reference for that group.
 23 DR. BRUFISKY:
 24 A. Sure.
 25 CHAYTOR, Q.C.:

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1 Q. It's P-2478, please, Registrar, and the
 2 purpose is to develop evidence-based practice
 3 guidelines for diagnosis, care and treatment
 4 of individuals with breast disease. The
 5 objective being to determine priorities for
 6 guideline development, review national and
 7 international guidelines and provide direction
 8 for local adaptation. Approve practice
 9 guidelines for local, provincial use. Provide
 10 direction for dissemination and evaluation of
 11 guidelines. Develop strategies for collection
 12 and analysis of breast cancer data within
 13 Eastern Health, and you can see that there's
 14 representatives from the Cancer Care Program,
 15 pathology, radiology, medical oncology,
 16 radiation, pharmacy, nursing, surgery and
 17 genetics. Is that the type of committee and
 18 the mandate of your committee?
 19 DR. BRUFISKY:
 20 A. This is the type of committee, but the
 21 mandate's a little bit different. This is
 22 more of a guidelines committee that sets
 23 treatment guidelines, which we have committees
 24 that do that also, but they're separate from
 25 this. But this composition is what a cancer

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1 committee would look like under the American
 2 College -
 3 CHAYTOR, Q.C.:
 4 Q. So the membership would be?
 5 DR. BRUFISKY:
 6 A. The member is very similar to what the
 7 membership of a cancer committee would look
 8 like.
 9 CHAYTOR, Q.C.:
 10 Q. And so what--well, how does your cancer
 11 committee differ? What exactly would your
 12 mandate be?
 13 DR. BRUFISKY:
 14 A. So our mandate is actually to review the--not
 15 exactly review the treatment. So this is
 16 actually a treatment committee, but this is
 17 actually--the committee that we would have
 18 would be more of a quality control committee.
 19 So in other words, our committee meets, I
 20 think, quarterly to review the registry, to go
 21 and do a spot check of the cases in the
 22 registry, to be sure they're being recorded
 23 properly, to discuss issues that arise of
 24 quality control among the various cancer
 25 programs that are specifically tied to the

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1 American College of Surgeons guidelines.
 2 CHAYTOR, Q.C.:
 3 Q. And so that committee is for more--that's for
 4 all cancers, all site groups?
 5 DR. BRUFISKY:
 6 A. Well, it's for--it's for GYN cancers, breast
 7 and ovarian, endometrial, but nonetheless,
 8 that cancer committee meets more not to
 9 establish treatment guidelines. We have
 10 separate committees that do that that are
 11 composed mostly of surgeons, medical
 12 oncologists, not so much geneticists and other
 13 people. It's mostly radiation therapists,
 14 medical oncologists, surgeons, geneticists.
 15 The nursing and pharmacy probably wouldn't be
 16 part of this. Pathology and radiology
 17 probably wouldn't be part of a guidelines
 18 committee, because a guidelines committee
 19 really is doing treatment guidelines. So that
 20 would be really people involved in treatment.
 21 This is mostly treatment, but I mean, I think
 22 that this is kind of--but there are some
 23 objectives that are good that are developed
 24 (unintelligible) and analogy of breast cancer
 25 data. So that's more of a cancer committee

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1 sort of focus.
 2 I mean, I think that generally, with the
 3 exception of the treatment guidelines, I think
 4 that if you call it clinical practice, I guess
 5 clinical practice is different than treatment.
 6 So I guess this is kind of functioning like a
 7 cancer committee would in our institution.
 8 CHAYTOR, Q.C.:
 9 Q. Okay. So your committee that meets is
 10 clearly--the one that meets quarterly -
 11 DR. BRUFISKY:
 12 A. Yes.
 13 CHAYTOR, Q.C.:
 14 Q. - the cancer committee, it's clearly meant
 15 more for QA and for analysis of the data which
 16 is going into your database?
 17 DR. BRUFISKY:
 18 A. Correct.
 19 CHAYTOR, Q.C.:
 20 Q. Or your registry, as you call it, yes.
 21 DR. BRUFISKY:
 22 A. Right, and for deciding on, you know, being
 23 sure that the multi-disciplinary conferences
 24 are going, that they're well--that they're
 25 attended. Making sure that any--the quality

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1 projects that we're doing are ongoing.
 2 CHAYTOR, Q.C.:
 3 Q. So they oversee that as well?
 4 DR. BRUFISKY:
 5 A. They oversee that as well, yes.
 6 CHAYTOR, Q.C.:
 7 Q. Okay, and in terms of the data collection
 8 specifically for hormone receptor tests, what
 9 would you track? What would you be recording?
 10 DR. BRUFISKY:
 11 A. Well, again, that would be mostly in the
 12 pathology, okay, and we would do through the
 13 registry, we would say, one of the registry
 14 things that we would do is we would say "do
 15 all"--the question we would ask of the
 16 registry is if we look at all--you know, X
 17 number of cases from 2005, do they all have--
 18 what is the estrogen and progesterone receptor
 19 status of those cases? You know, if there are
 20 too many unknowns, then we have a problem, or
 21 if there are too many revised--I mean, for
 22 example, relevant to us, if there are too
 23 many--if there are multiple revised reports
 24 that would probably come up in a committee
 25 review like this.

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1 CHAYTOR, Q.C.:
 2 Q. Okay, and would there be any analysis, for
 3 example, by types of cancers? Would you be
 4 looking for anything like that, in terms of
 5 what the hormone receptor status versus type
 6 of cancer?
 7 DR. BRUFISKY:
 8 A. Not necessarily, unless it came up, unless it
 9 was brought to our attention.
 10 CHAYTOR, Q.C.:
 11 Q. Unless that was your project for the year
 12 perhaps?
 13 DR. BRUFISKY:
 14 A. Correct, if that was a project for the year,
 15 right.
 16 CHAYTOR, Q.C.:
 17 Q. Okay, and what about in terms of correlations
 18 between ER positivity and PR positivity, would
 19 that be something that you could track through
 20 your registry?
 21 DR. BRUFISKY:
 22 A. We could track it through our database, yes,
 23 but again, that would--it's not something that
 24 we normally do. So unless it was brought to
 25 someone's attention. I mean, for example,

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1 again, if, like you said, there was suddenly a
 2 bolus of reports that were revised, it would
 3 come to the attention of the cancer committee.
 4 CHAYTOR, Q.C.:
 5 Q. And if you were seeing a number of patients
 6 who had ER negativity but PR positivity -
 7 DR. BRUFISKY:
 8 A. Yes.
 9 CHAYTOR, Q.C.:
 10 Q. - and seeing a lot of that, that's something
 11 again that might come to your -
 12 DR. BRUFISKY:
 13 A. That would come to one of the quarterly
 14 meetings of the cancer committee, correct.
 15 CHAYTOR, Q.C.:
 16 Q. Okay.
 17 THE COMMISSIONER:
 18 Q. Would you describe this committee as kind of
 19 having an audit function?
 20 DR. BRUFISKY:
 21 A. In some ways, yes. It does have an audit
 22 function, yes.
 23 THE COMMISSIONER:
 24 Q. So it's--but when the committee goes in to
 25 look at essentially a file which tells them

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1 how a particular patient was treated, and as I
 2 understand it, you would have there all of
 3 these experts looking presumably at the file
 4 from the perspective of that particular
 5 expertise. Then are they looking at whether
 6 or not the particular patient was treated or
 7 dealt with in the context of norms which were
 8 established or are they looking for this on a
 9 more global basis, having picked a percentage
 10 of the files and then trying to determine
 11 whether over the course of this percentage,
 12 these kinds of standards are being met?
 13 DR. BRUFISKY:
 14 A. Yeah, it's a more - the case of this
 15 particular committee it's global.
 16 THE COMMISSIONER:
 17 Q. Uh-hm, yes.
 18 DR. BRUFISKY:
 19 A. We have separate committees, though, that are
 20 cancer centre-wide where we have established
 21 clinical practice guidelines for the treatment
 22 of all stages of breast cancer.
 23 THE COMMISSIONER:
 24 Q. Uh-hm.
 25 DR. BRUFISKY:

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1 A. It's web-based and we actually have a separate
 2 committee, separate from this, comprised
 3 mostly of medical oncologists and surgeons
 4 that actually looks to see whether a
 5 particular practitioner has deviated from the
 6 practice guidelines. So that's a different
 7 committee function than this, but there's a
 8 separate committee that actually does that,
 9 yes. So I think the answer is this sort of
 10 committee does it more on a global sense.
 11 THE COMMISSIONER:
 12 Q. All right, but there is another group that
 13 would - whose function is to determine whether
 14 or not guidelines having been established are
 15 being followed?
 16 DR. BRUFASKY:
 17 A. Correct, yes, that's a more recent committee,
 18 yes.
 19 CHAYTOR, Q.C.:
 20 Q. If we can look, please, at P-2601, and this is
 21 entitled Eastern Health Clinical Practice
 22 Guidelines in Oncology Breast Cancer, and I'll
 23 just take you down through part of this. "In
 24 DCIS and LCIS, what is the role of Tamoxifen
 25 in the management of DCIS, LCIS, and adjuvant

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1 hormone therapy, what constitutes a positive
 2 hormone receptor breast cancer", and there is
 3 reference to -
 4 DR. BRUFASKY:
 5 A. To 1 percent.
 6 CHAYTOR, Q.C.:
 7 Q. To the 1 percent right here, "Patients should
 8 be referred to medical oncology in a timely
 9 fashion to allow for assessment to take place
 10 10 to 12 weeks post-surgery. The discussion
 11 will include the adjuvant treatments of
 12 choice, and for those patients who have ER/PR
 13 positive disease, adjuvant hormonal therapy
 14 will be discussed. The threshold for ER and
 15 PR positivity has been debated in the past,
 16 but the group decided the result of 1 percent
 17 or over will be considered positive". Now
 18 there has been another document, however,
 19 entered here, and I believe it might be 2599,
 20 where it discusses the 1 to 10 percent.
 21 DR. BRUFASKY:
 22 A. Uh-hm. Right there.
 23 CHAYTOR, Q.C.:
 24 Q. Here we go, right here. "So the breast group
 25 has decided to accept the St. Gallen's

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1 recommendations in which patients with hormone
 2 receptor staining found to be greater than 10
 3 percent are considered positive and should be
 4 offered hormonal treatment. Those with 1 to
 5 10 percent staining are deemed to be hormone
 6 response unknown and may still be offered
 7 hormone manipulation, while those under 1
 8 percent exhibit no detectable hormone receptor
 9 staining are considered to be negative, and,
 10 therefore, do not derive benefit from hormonal
 11 therapy", and we've heard from the oncologists
 12 practising here in St. John's that anyone 1 to
 13 10 percent now, their current practice is to
 14 bring those patients to their tumour board
 15 rounds and discuss them.
 16 DR. BRUFASKY:
 17 A. And that's very reasonable. I think that's an
 18 excellent way to do it. I mean, again, I
 19 think that we - because there is a lot of
 20 controversy still about that 1 to 10 percent,
 21 and even amongst my colleagues in my own
 22 institution, some will treat with 1 percent.
 23 I particularly will not. Everybody - I think
 24 it's a very reasonable thing to do.
 25 CHAYTOR, Q.C.:

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1 Q. Okay. If we could have, please, P-2596. This
 2 is a guideline that's been developed for DCIS
 3 patients, and the group has decided to not
 4 recommend carrying out routine receptor
 5 testing on DCIS, however, if an individual
 6 physician requests it, the pathology
 7 department will provide testing on a case by
 8 case by case basis. Doctor, what's your
 9 current practice in terms of dealing with
 10 DCIS?
 11 DR. BRUFASKY:
 12 A. We test for DCIS and LCIS. Well, we don't
 13 test LCIS because we know (unintelligible) is
 14 98 percent positive, but DCIS we do because
 15 that will affect our recommendations for
 16 Tamoxifen. Again that's - and I can
 17 understand this. This is kind of a more -
 18 there's still some debate country by country
 19 about the - it's based on one or two papers,
 20 one big presentation at the San Antonio Breast
 21 Conference in 2005 from Dr. Allred. There is
 22 a lot of - we particularly have adopted it, so
 23 we do ER/PR testing on all DCIS.
 24 CHAYTOR, Q.C.:
 25 Q. And what is it that you've adopted?

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1 DR. BRUFISKY:
 2 A. Testing for - estrogen receptor testing on
 3 DCIS.
 4 CHAYTOR, Q.C.:
 5 Q. Okay.
 6 DR. BRUFISKY:
 7 A. Where here they have not, and - which is okay
 8 right now, but I think that within the next
 9 year or two, they probably will end up
 10 adopting it, but that's the reason people have
 11 meetings for guidelines is to sit and discuss
 12 the literature and have a take of whatever
 13 expert committee you put together. I mean, I
 14 think in the United States if you put together
 15 15 expert committees, determining whether to
 16 test DCIS or LCIS - DCIS for the estrogen
 17 receptor, I think you probably would have six
 18 that would say do it, you'd have four that
 19 would say not. So, I mean, I think that's
 20 reasonable, although at our institution we do
 21 it.
 22 CHAYTOR, Q.C.:
 23 Q. And why, who do you do it at your institution?
 24 DR. BRUFISKY:
 25 A. Because our pathologists believe that the

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1 receptor testing can be done, they believe the
 2 results, and the medical oncologists in our
 3 institution believe that DCIS that's estrogen
 4 receptor negative will not respond to
 5 Tamoxifen. So, therefore, it does change what
 6 hormonal therapy we offer the patient.
 7 CHAYTOR, Q.C.:
 8 Q. Okay. In terms of the types of guidelines
 9 that you see here, are there any - I know
 10 you've had a chance to look over those
 11 somewhat before coming here.
 12 DR. BRUFISKY:
 13 A. Yes.
 14 CHAYTOR, Q.C.:
 15 Q. Are there any other guidelines that you would
 16 recommend in terms of hormone receptor
 17 testing?
 18 DR. BRUFISKY:
 19 A. Well, I think they've done a fairly good job.
 20 Again I think one thing they will have to do
 21 in the near future, if it becomes available in
 22 Canada and in Newfoundland, is determine how
 23 to integrate the Oncotype DX test into it. I
 24 think that's going to be an important -
 25 because that clearly - outside of the United

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1 States it really has not been widely
 2 integrated, but I suspect within the next
 3 three to five years it will be.
 4 CHAYTOR, Q.C.:
 5 Q. Okay.
 6 DR. BRUFISKY:
 7 A. But generally these are pretty good. I mean,
 8 understanding that there's some local
 9 differences between Newfoundland and
 10 Pittsburg.
 11 CHAYTOR, Q.C.:
 12 Q. Yes. I believe, Doctor, you said in answering
 13 my questions earlier this morning that you
 14 don't currently have what we call mortality or
 15 morbidity rounds. What do you have instead?
 16 DR. BRUFISKY:
 17 A. What we - again our tumour board, cancer board
 18 that we have, or breast cancer committee -
 19 CHAYTOR, Q.C.:
 20 Q. It's the committee that we just spoke about,
 21 is it?
 22 DR. BRUFISKY:
 23 A. Not the - not the cancer committee, but our
 24 multidisciplinary rounds every week serves as
 25 an M & M as well. So if - because again

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1 thankfully complications of breast surgery are
 2 somewhat rare, but we will discuss them and
 3 how to prevent them in the future, which is
 4 really the function of a surgical M & M, by
 5 and large, at our breast cancer conference.
 6 So we - even though it's got the tumour board
 7 name on it, it really is a conference where a
 8 lot of different issues in our institution
 9 come up like this.
 10 CHAYTOR, Q.C.:
 11 Q. Okay. If we could have then, please, P-3354.
 12 Doctor, perhaps you can just tell us what this
 13 document is and take us through the relevant
 14 portions?
 15 DR. BRUFISKY:
 16 A. Sure, I could take you through some of this.
 17 This is actually - this is the Commission on
 18 Cancer, cancer program standards that you have
 19 to meet, and the guideline is widely available
 20 on the internet for cancer programs in the
 21 United States that want to receive American
 22 College of Surgeons accreditation, which again
 23 is a plus for that program because it
 24 indicates that it meets certain quality
 25 control standards, and if I can just briefly

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1 go through some of these pages of this
 2 document. Where are we here? I mean, I'll
 3 just kind of go through - you need to meet 36
 4 criteria that are divided, I think, into nine
 5 different sections, and let me just see if I
 6 can kind of see - it's a long document, and I
 7 don't want to go through all of this, but -
 8 so, for example, these are the standards, so
 9 these are a variety of standards that you have
 10 to meet. So this is the standard, 1.1, the
 11 faculty is accredited by a recognized
 12 authority, and depending on what kind of
 13 cancer program - there's six different kinds
 14 of cancer programs they would accreditate, but
 15 depending on, and these are the organizations
 16 that you can see on the left hand side, like
 17 the JCAHO, or the American Osteopathic
 18 Association, if it's an osteopathic hospital
 19 or there's various health licensure agencies.
 20 So you have to meet that. Then you have to
 21 have cancer program leadership. So you have
 22 to have organization structure that has a
 23 cancer committee, that has someone leading the
 24 cancer committee, and again there's all these
 25 sorts of names for it; Cancer Centre Board,

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1 Executive Committee, etc, but you have to have
 2 all these committees and there's various
 3 standards that you're rated on. Then Chapter
 4 Three really describes that you have to have a
 5 cancer data management and tumour registry,
 6 and it goes through the various specifications
 7 for this. There's all sorts of requirements
 8 that are in here. You have to have a
 9 registrar, they have to be specifically
 10 trained, etc, and it also describes the
 11 registry operations here. You know, there's a
 12 policy and procedure manual for the cancer
 13 registry, how the cases are reported, how
 14 they're adjudicated, how there's case finding,
 15 and what you have to have in the index.
 16 Chapter Four really has to do more with the
 17 treatment services that are offered by a
 18 cancer program, and the three major ones are
 19 surgery, radiation, and systemic therapy, but
 20 you also have to have rehabilitation services,
 21 social services, high risk programs for people
 22 who don't have cancer, but believe they are at
 23 high risk for cancer. Chapter Five is going
 24 through this, the kind of research, about
 25 disseminating research during clinical trials.

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1 You have to have clinical trials program
 2 information at your institution. You have to
 3 have community out-reach, so supportive care
 4 of various support groups, and then this is
 5 the important issue - well, there's cancer
 6 conferences that you have to have, but you
 7 also have to have one big cancer educational
 8 opportunity for local physicians, and finally,
 9 Chapter Eight has to do with quality
 10 improvement, and you have to have various
 11 quality outcomes that they require and you're
 12 rated on all of these. Again it turns out
 13 that within these eight criteria there are
 14 sub-criteria, and you're rated on all 36, and
 15 you have to receive at least a passing score
 16 on all 36 to get accreditation. If you don't,
 17 it depends on how many you failed, you're
 18 given three years or a year to fix whatever
 19 you need to fix.
 20 CHAYTOR, Q.C.:
 21 Q. Okay.
 22 DR. BRUFISKY:
 23 A. But this serves as a very nice framework, I
 24 think, for quality control in the cancer
 25 program, and the reason I brought this with me

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1 is that this is kind of how our cancer program
 2 is organized, at least in terms of its quality
 3 improvement and quality control.
 4 CHAYTOR, Q.C.:
 5 Q. Okay.
 6 DR. BRUFISKY:
 7 A. From the medical leadership standpoint, not
 8 internally within the pathology department,
 9 which is a separate quality control entirely.
 10 CHAYTOR, Q.C.:
 11 Q. Yes. Commissioner -
 12 THE COMMISSIONER:
 13 Q. I was just going to remind you of the morning
 14 break at any point you want to take it.
 15 CHAYTOR, Q.C.:
 16 Q. Perhaps this would be a good point. I'm just
 17 about finished with the doctor, so I'll just
 18 look over my notes.
 19 THE COMMISSIONER:
 20 Q. When we come back, just because I happen to be
 21 interested in it, could we perhaps get the
 22 opinion of the witness on the value of the
 23 data management aspect.
 24 CHAYTOR, Q.C.:
 25 Q. Yes.

1 THE COMMISSIONER:
 2 Q. Thank you.
 3 CHAYTOR, Q.C.:
 4 Q. Thank you.
 5 THE COMMISSIONER:
 6 Q. Take fifteen minutes.
 7 (BREAK)
 8 THE COMMISSIONER:
 9 Q. Ms. Chaytor, before you begin, I think I
 10 should interrupt the proceedings for just a
 11 moment to convey some congratulations which
 12 are in order to Ms. Brazil, Mr. Pike, and Mr.
 13 Browne on attaining their QC's. We look
 14 forward to seeing you all in silk in due
 15 course.
 16 CHAYTOR, Q.C.:
 17 Q. Congratulations.
 18 BRAZIL, Q.C.:
 19 Q. Thank you, Commissioner.
 20 BROWNE, Q.C.:
 21 Q. Thank you, Commissioner.
 22 PIKE, Q.C.:
 23 Q. Commissioner, thank you very much. Thank you.
 24 CHAYTOR, Q.C.:
 25 Q. Doctor, I'd just like to ask - the area that

1 DR. BRUFISKY:
 2 A. Oh, it's in there, it's actually in the
 3 standards. There's a very nice list, believe
 4 it or not.
 5 CHAYTOR, Q.C.:
 6 Q. Perhaps we can bring that up again then,
 7 please, Registrar, 3354?
 8 DR. BRUFISKY:
 9 A. Let me see if I can find you the exact
 10 elements.
 11 CHAYTOR, Q.C.:
 12 Q. Okay, and is there a particular page then,
 13 Doctor?
 14 DR. BRUFISKY:
 15 A. Try pages 48 and 49 of this document. Let's
 16 see. I don't know if that's the right page.
 17 Hold on. It's actually, standard 3.8, so I
 18 would keep going. Go down a few more.
 19 CHAYTOR, Q.C.:
 20 Q. Yeah, you just scroll down there. 3.7 so,
 21 here we go, 3.8 "Special Studies"?
 22 DR. BRUFISKY:
 23 A. Yeah. No, go down, go back one. Let me see
 24 if it's the right one. Let me see if I'm on
 25 the right page. Yeah, it's in the special

1 the Commissioner would like to have some more
 2 information on in terms of the value of data
 3 management for your group that--the committee
 4 that you told us about that collects the data.
 5 Who mandates what data has to be collected?
 6 DR. BRUFISKY:
 7 A. So the American College of Surgeons as part of
 8 their Council on Cancer, as part of being one
 9 of the certified institutions, they mandate
 10 very specific data elements that at a minimum
 11 have to be collected. It's our choice to
 12 collect more if we so desire.
 13 CHAYTOR, Q.C.:
 14 Q. And do you do that, do you collect -
 15 DR. BRUFISKY:
 16 A. We do, yes.
 17 CHAYTOR, Q.C.:
 18 Q. - more than what -
 19 DR. BRUFISKY:
 20 A. We collect on data on treatments, which is not
 21 necessarily required.
 22 CHAYTOR, Q.C.:
 23 Q. And what types--what are--what types of data
 24 are included in the minimum of what has to be
 25 collected?

1 studies. It kind of says at least the minimum
 2 sort of things that are collected.
 3 CHAYTOR, Q.C.:
 4 Q. Okay.
 5 COMMISSIONER:
 6 Q. Now is this data then communicated some place
 7 or is it available to others?
 8 DR. BRUFISKY:
 9 A. Oh, it's available to anybody who wants it,
 10 yes. So it's a whole listing. I mean, you'll
 11 see if you go down through this, there's a
 12 whole series of material. And it's not all of
 13 them, there's a whole policy and procedure
 14 manual that has a bunch of other things that
 15 are collected. Keep going.
 16 CHAYTOR, Q.C.:
 17 Q. Keep going?
 18 DR. BRUFISKY:
 19 A. But most of them, this just tells you how--
 20 keep going. Index. These are the sort of
 21 things--you can go back a little bit. If you
 22 look at the index, there's a whole listing of
 23 things there that you collect. Then you
 24 collect data diagnosis. Keep going. You can
 25 go down a little bit further. And then you

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1 actually abstract it. So there's actually a
 2 form, I don't have the form on me, but there's
 3 a form that basically stages--the biggest one
 4 of all is staging the cancer. So the most
 5 important things are data diagnosis, the T
 6 stage, the N stage, the M stage. Those are
 7 the most important parts of the registry that
 8 have to be done and the follow-up, whether the
 9 patient is alive or dead. Those are really
 10 the requirements, because they all have to be
 11 submitted in a particular format to a national
 12 database. They have to be submitted, I think,
 13 every six months to a national database of all
 14 cancers in the United States that are
 15 participating in the ACS Registry. But what
 16 people do on top of that, there are actually
 17 computer registry, computer programs that are
 18 commercially available that allow you to
 19 collect additional data if you so desire on
 20 treatments, etcetera, and we've done that in
 21 our database.
 22 CHAYTOR, Q.C.:
 23 Q. Yes. And what's the purpose then of
 24 collecting this data, what benefit can it
 25 have?

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1 DR. BRUFISKY:
 2 A. So (a) there is a variety of things. (a),
 3 it's one group of many throughout the United
 4 States that provides bulk data on cancer
 5 incidents and mortality in the United States,
 6 so that's one function. The second function
 7 is a local function where you compare your
 8 incidences and mortality rates to national
 9 standards. That's probably the two biggest
 10 ones that we use. And there's a third one,
 11 obviously, to look at various trends in the
 12 data. Especially if you're collecting some of
 13 these other additional data elements, you can
 14 look at trends in your data and see if
 15 anything is kind of skewing differently than
 16 national norms.
 17 CHAYTOR, Q.C.:
 18 Q. And that's the purpose for which your
 19 organization uses the data?
 20 DR. BRUFISKY:
 21 A. Would be for quality control a lot of times,
 22 yeah.
 23 CHAYTOR, Q.C.:
 24 Q. Okay. Now, I think that there have been some
 25 updates to this document just recently. And

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1 you'd be aware, I take it, of that, the
 2 updates in -
 3 DR. BRUFISKY:
 4 A. Yeah, I am. The updates, at least a lot of
 5 them are not relevant, I think, to our
 6 discussion.
 7 CHAYTOR, Q.C.:
 8 Q. Okay.
 9 DR. BRUFISKY:
 10 A. The only one is that the staging systems for
 11 various cancers have changed over the last
 12 couple of--especially breast cancer in 2006.
 13 CHAYTOR, Q.C.:
 14 Q. Yes.
 15 DR. BRUFISKY:
 16 A. The staging symptom for lymph nodes changed
 17 quite a bit, and as a result they've added,
 18 over time, various new staging systems.
 19 CHAYTOR, Q.C.:
 20 Q. Okay. And we have another exhibit,
 21 Commissioner, if we could have entered,
 22 please, is P-3355?
 23 COMMISSIONER:
 24 Q. Thank you. Entered.
 25 EXHIBIT P-3355 ENTERED INTO EVIDENCE.

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1 CHAYTOR, Q.C.:
 2 Q. And if we could bring up, please, P-3355? And
 3 this is the new standard updates, actually,
 4 for 2009.
 5 DR. BRUFISKY:
 6 A. Um-hm.
 7 CHAYTOR, Q.C.:
 8 Q. So that would be the document that you're
 9 referring to in terms of the updates?
 10 There's--have a blank page. So basically most
 11 of what's relevant to our discussion we would
 12 find in the original document, 3354, I take it
 13 -
 14 DR. BRUFISKY:
 15 A. Yes.
 16 CHAYTOR, Q.C.:
 17 Q. - is that right, Doctor?
 18 DR. BRUFISKY:
 19 A. Um-hm.
 20 CHAYTOR, Q.C.:
 21 Q. Okay. Doctor, unless there's anything else
 22 that you would like to add in term of any
 23 recommendations on a go forward basis that
 24 might be useful, other than what we've covered
 25 -

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1 DR. BRUFISKY:
 2 A. No, I'd just like to summarize, I think that
 3 having a cancer committee very similar to the
 4 design of a commission on cancer, cancer
 5 committee, I think, that meets at least
 6 monthly or at least quarterly, would be a very
 7 important step. I mean, I think that clearly
 8 it's a characteristic of some of the top
 9 cancer centres, the best practices in the
 10 United States to have such committees, number
 11 one, to have a weekly multidisciplinary
 12 tumour board, clearly, would be a major best
 13 practice. I think another best practice would
 14 be to have a cancer committee comprised of
 15 this group of people which could also serve as
 16 a guidelines committee for dissemination of
 17 best practices in cancer. I noticed on this
 18 committee that you have surgeons and you have
 19 geneticists and radiation therapists, but most
 20 of the--and radiologists. But most of the
 21 recommendations are surrounding treatment. I
 22 think it would be important going forward, you
 23 know, again, to promulgate guidelines about
 24 screening, about various--which radiologic
 25 techniques to use, a la, you know, mammograms

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1 versus digital mammograms, versus breast MRI,
 2 these sort of--this is one example of many.
 3 But, I mean, this sort of committee that
 4 you've formed could serve all of those
 5 functions, which would be very useful, as
 6 well.
 7 CHAYTOR, Q.C.:
 8 Q. Okay.
 9 DR. BRUFISKY:
 10 A. Not just treatment.
 11 CHAYTOR, Q.C.:
 12 Q. Thank you. Thank you, Doctor, for your time.
 13 DR. BRUFISKY:
 14 A. You're welcome.
 15 CHAYTOR, Q.C.:
 16 Q. And some of my colleagues will have questions,
 17 perhaps, for you. Thank you, Commissioner.
 18 COMMISSIONER:
 19 Q. Ms. Brazil?
 20 BRAZIL, Q.C.:
 21 Q. No questions, Commissioner.
 22 COMMISSIONER:
 23 Q. Mr. Simmons?
 24 DR. ADAM BRUFISKY, EXAMINATION BY MR. DANIEL SIMMONS
 25 MR. SIMMONS:

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1 Q. Thank you, Commissioner. Good morning, Dr.
 2 Brufsky.
 3 DR. BRUFISKY:
 4 A. Good morning.
 5 MR. SIMMONS:
 6 Q. My name is Dan Simmons and I'm here
 7 representing Eastern Health, which is the
 8 health authority that now operates the cancer
 9 centre here and laboratory services, as well.
 10 I was very interested in your evidence this
 11 morning, I found it very informative. And I
 12 note that you've given us a number of examples
 13 of the way things work at your institution in
 14 Pittsburgh, and I want to ask you just a
 15 little bit more background about your
 16 institution there.
 17 DR. BRUFISKY:
 18 A. Sure.
 19 MR. SIMMONS:
 20 Q. I understand it's Magee Women's Hospital?
 21 DR. BRUFISKY:
 22 A. Yes.
 23 MR. SIMMONS:
 24 Q. And I apologize if I don't get these names
 25 exactly right.

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1 DR. BRUFISKY:
 2 A. No, no, that's okay. Now, that institution is
 3 affiliated with the University of Pittsburgh?
 4 DR. BRUFISKY:
 5 A. Correct.
 6 MR. SIMMONS:
 7 Q. Okay. And what the portion of the institution
 8 that you're the director of is the
 9 Comprehensive Breast Cancer Centre?
 10 DR. BRUFISKY:
 11 A. Yes, of all of the UPMC, so Magee is the main
 12 obstetrics hospital of the entire UPMC system.
 13 MR. SIMMONS:
 14 Q. Yes.
 15 DR. BRUFISKY:
 16 A. And the breast centre is located at the
 17 University of Pittsburgh. We have a
 18 comprehensive free-standing cancer centre
 19 called the Hillman Cancer Centre.
 20 MR. SIMMONS:
 21 Q. Um-hm.
 22 DR. BRUFISKY:
 23 A. Which is attached to a hospital called
 24 Shadyside.
 25 MR. SIMMONS:

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1 Q. Um-hm.
 2 DR. BRUFISKY:
 3 A. When we built that, we had just built the
 4 Comprehensive Breast Centre at Magee and we
 5 did not want to spend another \$10 million so
 6 we decided to leave the Comprehensive Breast
 7 Cancer Centre at Magee. But it's for the
 8 entire system, though.
 9 MR. SIMMONS:
 10 Q. Okay, and you've said that you see about 100
 11 new breast cancer patients?
 12 DR. BRUFISKY:
 13 A. The entire practice, yes, of about three FTE
 14 medical oncologists sees about 1000.
 15 MR. SIMMONS:
 16 Q. Okay. Which works out to about 300 or so
 17 patients each -
 18 DR. BRUFISKY:
 19 A. Actually, well, we have five people total. I
 20 see the most, I see 350.
 21 MR. SIMMONS:
 22 Q. Yes.
 23 DR. BRUFISKY:
 24 A. And then my colleagues see anywhere from 100
 25 to probably 200 each, depending on the person.

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1 MR. SIMMONS:
 2 Q. So you have five medical oncologists available
 3 for that volume of new breast cancer patients?
 4 DR. BRUFISKY:
 5 A. Correct, yes.
 6 MR. SIMMONS:
 7 Q. And those five oncologists, do they do almost
 8 exclusively breast cancer or do they do a
 9 variety of other types of cancer treatment, as
 10 well?
 11 DR. BRUFISKY:
 12 A. One does all types. One works--see, again,
 13 this being an academic practice, I work three
 14 days a week in clinic, I have someone that
 15 works two days a week and we have two
 16 oncologists who work two days a week in
 17 clinic, I have some works a week, day and
 18 a half in clinic, and then I have one medical,
 19 and they all see nothing but breast cancer.
 20 MR. SIMMONS:
 21 Q. Um-hm.
 22 DR. BRUFISKY:
 23 A. The fifth person sees breast cancer one day
 24 and then all types of cancers on the other
 25 four days.

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1 MR. SIMMONS:
 2 Q. And I presume that that level of staffing of
 3 medical oncologists you'd consider appropriate
 4 and in line with any guidelines that are out
 5 there for the number of oncologists you need
 6 for that volume of patients that you see?
 7 DR. BRUFISKY:
 8 A. Probably because we're academic oncologists on
 9 the low side. I would say the national norms
 10 are about 300 patients, 200 to 300 patients
 11 per medical oncologist.
 12 MR. SIMMONS:
 13 Q. Now, we've heard in this Inquiry, as you may
 14 or may not be aware, considerable evidence
 15 about difficulties in recruiting specialist
 16 positions here. Pathologists, we've heard a
 17 lot about, but we've heard about medical
 18 oncologists, as well. And I wonder if you can
 19 give me any--your view on your experience over
 20 the last five, six, eight, ten years in your
 21 ability to recruit and retain medical
 22 oncologists for your institution?
 23 DR. BRUFISKY:
 24 A. It's actually going down. I think that there
 25 is in the US a national--there will be by 2020

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1 a predicted national shortage of medical
 2 oncologists, and it has become more difficult
 3 in the Pittsburgh area to recruit people.
 4 Generally people want to live, at least in the
 5 US, on one of the coasts. They don't
 6 necessarily want to move into the interior as
 7 much. That's been hard. But in general the
 8 supply, actually, has gone down. And most
 9 medical--especially in the academic setting
 10 and most groups in the US have a substantial
 11 proportion of foreign medical graduates
 12 because of that.
 13 MR. SIMMONS:
 14 Q. Okay. How does your current staffing level of
 15 medical oncologists compare to, say, five
 16 years ago in your program?
 17 DR. BRUFISKY:
 18 A. We're probably the same or slightly lower.
 19 MR. SIMMONS:
 20 Q. Right. And compared to ten years ago?
 21 DR. BRUFISKY:
 22 A. A bit bigger.
 23 MR. SIMMONS:
 24 Q. Okay.
 25 DR. BRUFISKY:

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1 A. Well, to ten--at least in the Magee--let me
 2 rephrase that because I think I know what
 3 question you're asking. We have grown at
 4 Magee, for example, from one medical
 5 oncologist seeing 50 patients a year to, I
 6 mean, we clearly have grown in terms of the
 7 breast medical oncology.
 8 MR. SIMMONS:
 9 Q. Right.
 10 DR. BRUFISKY:
 11 A. But I think in terms of the overall medical
 12 oncology group, it's kind of remained stable.
 13 MR. SIMMONS:
 14 Q. Right.
 15 DR. BRUFISKY:
 16 A. Maybe slightly increased.
 17 MR. SIMMONS:
 18 Q. So your numbers have remained relatively
 19 stable. What about your turnover of medical
 20 oncologists, what has your experience been in
 21 how frequently people will come to your
 22 institution, stay a short period of time and
 23 then move on somewhere else?
 24 DR. BRUFISKY:
 25 A. Actually, thankfully less than at most

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1 institutions. I think that generally we've
 2 had very good retention. We're a little bit
 3 different than a typical practice in that
 4 we're academic and for whatever reasons people
 5 find a job, an academic sometimes you have to
 6 move to get promoted or change, you know,
 7 whatever focus of research you're doing, and
 8 so there academic reasons why people move, but
 9 in general until very recently because we're
 10 actually changing the leadership of our cancer
 11 centre, we've had a fairly stable group of
 12 medical oncologists.
 13 MR. SIMMONS:
 14 Q. Okay. Now, you've told us about the types of
 15 committees you've been able to have in place,
 16 the multidisciplinary committees, the quality
 17 control work that you're able to do. I wonder
 18 do you have any view on whether or not your
 19 relative stability in numbers of medical
 20 oncologists and in turnover has been a
 21 positive or negative factor in being able to
 22 do that sort of work?
 23 DR. BRUFISKY:
 24 A. Absolutely. I would have to say that the
 25 stability of--the stability has been an

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1 important factor, that you have people who are
 2 the institutional memory, and that's very
 3 important to have people there who have been
 4 there for a number of years and understand how
 5 things have been done over an extensive period
 6 of time.
 7 MR. SIMMONS:
 8 Q. Okay. Ms. Chaytor asked you some questions
 9 about whether the relative percent of a
 10 positive estrogen test would play any role in
 11 deciding whether or not a particular patient
 12 would start hormone replacement therapy. And
 13 I think I understood you to say that as long
 14 as the percentage is ten percent, which is the
 15 threshold to trigger consideration, higher
 16 percentages don't necessarily tell you much
 17 more about what the prognosis will be for that
 18 patient--is that fair?
 19 DR. BRUFISKY:
 20 A. It tells more--I think it's a fair statement
 21 to say it doesn't predict response to estrogen
 22 therapy.
 23 MR. SIMMONS:
 24 Q. Okay.
 25 DR. BRUFISKY:

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1 A. I think those with a higher percentage of
 2 estrogen receptors probably have a slightly
 3 better prognosis. Again, how much weight
 4 someone puts on the degree of estrogen
 5 receptors really depends on the individual
 6 medical oncologist.
 7 MR. SIMMONS:
 8 Q. Yes.
 9 DR. BRUFISKY:
 10 A. So I put some weight on it, but not as much as
 11 others. Some oncologists put no weight in it.
 12 MR. SIMMONS:
 13 Q. Um-hm.
 14 DR. BRUFISKY:
 15 A. But in terms of a predictive response, I would
 16 say that generally over ten percent, there's
 17 slightly higher response, but the ten percent
 18 threshold, at least for me, is a good cutoff.
 19 MR. SIMMONS:
 20 Q. Is enough to trigger the consideration of the
 21 other factors that you take into account -
 22 DR. BRUFISKY:
 23 A. Correct.
 24 MR. SIMMONS:
 25 Q. - when you decide if you're going to recommend

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1 hormone therapy. Now, that's one of a number
 2 of examples I think you gave us where there
 3 are differing views among different medical
 4 oncologists about how to take factors into
 5 consideration. A lay person looking at this
 6 from the outside would tend to think there's a
 7 right way and there's a wrong way to do a lot
 8 of these things.

9 DR. BRUFISKY:
 10 A. Right.

11 MR. SIMMONS:
 12 Q. But I gather that's not the case when it comes
 13 to making these sorts of decisions?

14 DR. BRUFISKY:
 15 A. Correct. And I think that, you know, there--
 16 in general what tends to happen is that there
 17 is agreement on certain parameters that you
 18 can use. I mean, there are certain boundaries
 19 that you try to stay within. I mean, there
 20 are clearly certain things that are, no one
 21 would agree with. So if someone comes in with
 22 an estrogen receptor that's 100 percent with,
 23 say, a two centimetre breast cancer and
 24 doesn't receive hormonal therapy, I think you
 25 would get agreement on with most medical

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1 oncologists that that woman should be treated.

2 MR. SIMMONS:
 3 Q. Right.

4 DR. BRUFISKY:
 5 A. Whereas a woman comes in with one percent
 6 estrogen receptor positive tumour, I would say
 7 that there's a little bit less agreement about
 8 how that woman should be treated.

9 MR. SIMMONS:
 10 Q. Okay, good. Now, oncologists' views on issues
 11 like this and the sort of acceptance in the
 12 profession of where those limits are, has that
 13 been something that has evolved and changed
 14 over the last five or ten years, many of these
 15 issues?

16 DR. BRUFISKY:
 17 A. Yes, and in many different ways. There's new
 18 literature that comes out.

19 MR. SIMMONS:
 20 Q. Yes.

21 DR. BRUFISKY:
 22 A. There are experts in the field like myself
 23 that--that disseminate guidelines, etcetera,
 24 for other oncologists, perhaps, who are too
 25 busy to kind of keep up with every single item

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1 of the medical literature. They serve more as
 2 shorthand for those medical oncologists.

3 MR. SIMMONS:
 4 Q. You've spent quite a few years now
 5 concentrating on this area and you're
 6 obviously quite knowledgeable in the treatment
 7 of breast cancer. I'm going to put you a
 8 little bit on the spot now. My impression is
 9 that this is still an area where there's a lot
 10 to learn and we're far from being at the point
 11 where we know what all the answers are about
 12 how to--about the best ways to treat breast
 13 cancer.

14 DR. BRUFISKY:
 15 A. Oh, I -

16 MR. SIMMONS:
 17 Q. I wonder if you can give me some idea where
 18 you think we are in what we need to learn in
 19 order to know the optimal way to treat breast
 20 cancer?

21 DR. BRUFISKY:
 22 A. I think we've gotten much better in the last
 23 ten or fifteen years. In fact, there's a lot
 24 of literature to support that. I mean, I
 25 think 15 years ago maybe 60 percent of women

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1 would have survived ten years with a breast
 2 cancer. It's now over 80 to 85 percent.

3 MR. SIMMONS:
 4 Q. Um-hm.

5 DR. BRUFISKY:
 6 A. And it's only getting better. And I think
 7 that we have achieved agreement that women who
 8 are estrogen receptor positive should receive
 9 Tamoxifen, women who are positive for the
 10 HER2/neu protein should receive Herceptin.
 11 There's now a drug called Avastin, there's a
 12 whole class of drugs called Biphosphonates I
 13 kind of hinted at that probably are going to
 14 benefit women with breast cancer. But the
 15 issue is a lot of what happens with this is
 16 that like in anything in medicine, you know,
 17 you're sure of one thing and then all of a
 18 sudden you explore it a little bit more deeply
 19 and you realize it's a lot more complex than
 20 you thought. So, you know, back to your--
 21 there's no black and white, it's more kind of
 22 greyer or whiter or blacker. And I think it's
 23 always, medicine is always an evolution, but I
 24 think in general we've done much better than
 25 we have 15 or 20 years ago.

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1 MR. SIMMONS:
 2 Q. Yeah. You were asked some questions about the
 3 effect of delaying the start of hormone
 4 therapy. And I understood you to say that a
 5 matter of weeks might not have any significant
 6 impact, but if it were months or years, then
 7 the potential for an impact is greater. And I
 8 think I took from what you were saying that,
 9 and I may be wrong on this, that you were
 10 thinking in terms of the time from the surgery
 11 and the initial presentation at diagnosis when
 12 you were using those time frames?
 13 DR. BRUFISKY:
 14 A. Yes, yes.
 15 MR. SIMMONS:
 16 Q. Okay. And I take it then that there is some
 17 research available that you're familiar with
 18 that you can use to support that conclusion
 19 that from the time of surgery there is kind of
 20 an optimal time -
 21 DR. BRUFISKY:
 22 A. You know, there's not a lot of research,
 23 actually, interestingly enough.
 24 MR. SIMMONS:
 25 Q. Yes, okay.

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1 DR. BRUFISKY:
 2 A. Most of the--the reason I say this is that
 3 most of the clinical trials, we've gone
 4 through this, it's a question that my fellows
 5 ask all the time, it's a socratic question
 6 that we get all the time.
 7 MR. SIMMONS:
 8 Q. Um-hm.
 9 DR. BRUFISKY:
 10 A. How do we know that starting adjuvant therapy
 11 within eight to 12 weeks is appropriate, I
 12 mean, why don't we start later or sooner. And
 13 the reason most of us say that eight to 12
 14 week period is that most of the clinical
 15 trials of adjuvant therapy in cancer have used
 16 that eight to 12 weeks window, so most of the
 17 trials have started the therapy within eight
 18 to 12 weeks. So that's really where we
 19 obtained that number from.
 20 MR. SIMMONS:
 21 Q. So the-so there is research and knowledge
 22 about what the benefit is if it is started
 23 within that window, but not necessarily
 24 research out there to say what the effect is
 25 if it's started at some different time?

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1 DR. BRUFISKY:
 2 A. Correct.
 3 MR. SIMMONS:
 4 Q. Would that be a fair statement?
 5 DR. BRUFISKY:
 6 A. The only trials we have, really, that speak to
 7 that, at least with hormonal therapy, are a
 8 series of trials that were done about 15 or 20
 9 years ago where women received chemotherapy
 10 with their Tamoxifen concurrently.
 11 MR. SIMMONS:
 12 Q. Yeah.
 13 DR. BRUFISKY:
 14 A. Or received chemotherapy--or received
 15 Tamoxifen after their chemotherapy.
 16 MR. SIMMONS:
 17 Q. Yes.
 18 DR. BRUFISKY:
 19 A. And that chemotherapy was about probably four
 20 to six months. So in other words, these were
 21 a group of women who had Tamoxifen immediately
 22 or four to six months later. And there was no
 23 difference in their survival, interestingly
 24 enough. But, the problem was all of these
 25 women received chemotherapy so you have no

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1 idea--that's a confounding issue.
 2 MR. SIMMONS:
 3 Q. Right.
 4 DR. BRUFISKY:
 5 A. There was another series of trials where women
 6 received Tamoxifen before, with radiation or
 7 after radiation. The initial results of those
 8 trials showed that the women who received
 9 their hormonal therapy at the start of their
 10 radiation did better than the women who
 11 received it after the radiation, which is a
 12 period of about eight weeks. However, on
 13 long-term follow up, the initial follow up on
 14 that trial was five years, there appeared to
 15 be a difference in the people who got it
 16 upfront versus out back, is how we called the
 17 trial, was the upfront out back trial. But
 18 the thing was at 11 years of follow up, at
 19 long-term follow up on that trial there was no
 20 difference.
 21 MR. SIMMONS:
 22 Q. Um-hm.
 23 DR. BRUFISKY:
 24 A. So, in fact, what we believed upfront, we
 25 believed initially turned out not to be the

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1 case. So in the end of the day I would say
 2 that these are the only studies that we really
 3 have that, you know, give us any inkling about
 4 using therapies sooner as opposed to later in
 5 the treatment of cancer.
 6 MR. SIMMONS:
 7 Q. And here we're looking into what I gather to
 8 be a fairly unique circumstance where there
 9 were retests done in some cases eight years
 10 after the original test was done and treatment
 11 decisions then made to institute Tamoxifen at
 12 that point. Are you aware of any research
 13 that's been done that would help us assess the
 14 degree of benefit to be expected as a result
 15 of the instituting the treatment at that-as
 16 late as that?
 17 DR. BRUFISKY:
 18 A. Eight years, no. But in terms of eight years,
 19 no, but, in the trial that we kind of quoted
 20 in one of these exhibits, I think it's been
 21 quoted before -
 22 MR. SIMMONS:
 23 Q. Yeah.
 24 DR. BRUFISKY:
 25 A. We'll just find that. That's the Delozier

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1 Trial from the Annals of Oncology, I think, if
 2 I'm not mistaken.
 3 BROWNE, Q.C.:
 4 Q. 2582.
 5 DR. BRUFISKY:
 6 A. Yeah, 2582. That trial was done with
 7 Tamoxifen and I believe that was a delay of a
 8 few years.
 9 MR. SIMMONS:
 10 Q. Yes.
 11 DR. BRUFISKY:
 12 A. But more importantly, the MA17 follow-up trial
 13 informs us that you can have a delay of up to
 14 three years and still have benefit in your
 15 hormonal therapy. So the--and the question
 16 that I raise is you can have benefit, but the
 17 issue that is unresolved right now, is that
 18 benefit the same as if you started it upfront.
 19 MR. SIMMONS:
 20 Q. Um-hm.
 21 DR. BRUFISKY:
 22 A. That's the question I think no one can answer
 23 right now.
 24 MR. SIMMONS:
 25 Q. So aside from those studies which look at

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1 starting Tamoxifen up to three years after the
 2 original surgery, there is no other research
 3 out there to judge the relative effectiveness
 4 after -
 5 DR. BRUFISKY:
 6 A. No.
 7 MR. SIMMONS:
 8 Q. - any later than three years and whether
 9 starting the Tamoxifen at any particular time
 10 after that is more beneficial than the other
 11 regime?
 12 DR. BRUFISKY:
 13 A. Correct, no. No.
 14 MR. SIMMONS:
 15 Q. It would seem intuitive that it would be of
 16 benefit to do it?
 17 DR. BRUFISKY:
 18 A. Right. But -
 19 MR. SIMMONS:
 20 Q. But the work hasn't been done?
 21 DR. BRUFISKY:
 22 A. - there's just no, there's no studies of
 23 women, say, who are eight years out receiving
 24 Tamoxifen, no.
 25 MR. SIMMONS:

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1 Q. No, right, okay. You were shown, I think,
 2 three different pathology reports where there
 3 were reports from pathologists of having
 4 repeated an ER and PR test and some change in
 5 results. Now, did I gather correctly that in
 6 your experience, in your practice, it's not
 7 unknown to repeat an ER and PR test?
 8 DR. BRUFISKY:
 9 A. No, it's not.
 10 MR. SIMMONS:
 11 Q. No. What kinds of circumstances, in your
 12 experience, would you normally find the tests
 13 to be repeated or even asked for to be
 14 repeated?
 15 DR. BRUFISKY:
 16 A. Me asking for a repeat test -
 17 MR. SIMMONS:
 18 Q. Yes.
 19 DR. BRUFISKY:
 20 A. - or them repeating them on their own?
 21 MR. SIMMONS:
 22 Q. Well, both -
 23 DR. BRUFISKY:
 24 A. There's two separate -
 25 MR. SIMMONS:

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1 Q. - both, you can try both.
 2 DR. BRUFISKY:
 3 A. I think in the circumstance at least what I've
 4 been able to find out, because again, I'm not
 5 a pathologist, but what I've been able to find
 6 out is that again some--occasionally, just
 7 like with any system, you know, a buffer was
 8 wrong, you know, a buffer was mixed
 9 incorrectly or went bad.
 10 MR. SIMMONS:
 11 Q. Um-hm.
 12 DR. BRUFISKY:
 13 A. And their internal controls that they have
 14 showed that it wasn't working and so they had
 15 to repeat it on a batch of specimens. That
 16 happens occasionally. When I want to repeat
 17 it, the times I want to repeat it generally
 18 are when the clinical picture doesn't fit, so
 19 the pathology doesn't fit with the clinical
 20 picture, such as someone with lobular cancer
 21 having ER negative tumour or someone with a
 22 tubular cancer having ER negative tumour,
 23 those sort of things. I would ask the test to
 24 be repeated in that case.
 25 MR. SIMMONS:

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1 Q. Yeah. I'll go back to sort of the layman's
 2 conception. Looking at this from the outside,
 3 people may think looking at a test like this
 4 that it should be right the first time and if
 5 you repeated it, you should get exactly the
 6 same results every time you repeat it. Is--
 7 but where you sit as a medical oncologist is
 8 that the kind of absolute expectation you have
 9 from this test?
 10 DR. BRUFISKY:
 11 A. I would expect it to be 100 percent, but I
 12 understand that it's not, like anything, like
 13 any system and I know there's going to be a
 14 certain level of--there's going to be a
 15 certain error rate of any test. No test is
 16 100 percent. You know, I would hope that the
 17 rate is 95 percent or above, I would hope
 18 that, you know, I get no more than one in 20
 19 or one in 50 like this and that I have to deal
 20 with it. And generally from my pathologists
 21 it's generally what happens. And if something
 22 in my mind--again, because I just see so much
 23 breast cancer, and if I suddenly get a string,
 24 you know, of five or ten things that suddenly
 25 have to be repeated, that's a red flag in my

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1 mind.
 2 MR. SIMMONS:
 3 Q. Right.
 4 DR. BRUFISKY:
 5 A. That something has to be done.
 6 MR. SIMMONS:
 7 Q. Now, aside from the ten or 15 repeats of the
 8 lobular cases that you told us about earlier,
 9 have you had other experience with requesting
 10 that an ER and PR test be repeated and finding
 11 a change in the result that would affect
 12 DR. BRUFISKY:
 13 A. Yes.
 14 MR. SIMMONS:
 15 Q. - the clinical treatment of the patient?
 16 DR. BRUFISKY:
 17 A. Yes. And again, where that happens mostly is
 18 in specimens that come from second opinions.
 19 So someone that was tested in the lab that
 20 maybe has a lower volume comes to me and the
 21 clinical picture doesn't fit the test and I'll
 22 ask for that to be retested. So you know, for
 23 example, someone who comes in very similar in
 24 a slightly different way from this case that
 25 you talked about with Dr. Hudis before,

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1 someone comes in with a cancer that just
 2 hasn't responded to the therapies like we
 3 thought they would and I ask that the--and the
 4 tissue block was done, say, five years ago or
 5 seven years ago or something, I'll ask for
 6 that tissue block to be retrieved and I'll
 7 have our pathologist repeat it. And I found
 8 occasionally that the test is ER positive
 9 where it was negative in the past.
 10 MR. SIMMONS:
 11 Q. And I presume in those cases you would have to
 12 report back to the referring institution that
 13 there had been a retest and a -
 14 DR. BRUFISKY:
 15 A. Absolutely.
 16 MR. SIMMONS:
 17 Q. - changed result and then it's up to them to
 18 determine what they do to investigate from
 19 that point, is it?
 20 DR. BRUFISKY:
 21 A. Absolutely, yes.
 22 MR. SIMMONS:
 23 Q. Okay. Now, Ms. Chaytor asked you a number of
 24 questions about this already when looking at
 25 numbers of retests and changes. And I recall

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1 you saying this morning that if there was one
 2 a month or so that you saw that was a changed
 3 result, that wouldn't necessarily raise any
 4 alarm bells with you, but if there was a
 5 cluster of them, then that might be something
 6 you would want -
 7 DR. BRUFISKY:
 8 A. Yeah.
 9 MR. SIMMONS:
 10 Q. - to have looked at further?
 11 DR. BRUFISKY:
 12 A. Yes.
 13 MR. SIMMONS:
 14 Q. But an occasional one here and there wouldn't
 15 necessarily trigger any greater concern for
 16 you -
 17 DR. BRUFISKY:
 18 A. No, unless they were in something that just
 19 made absolutely no sense. I mean, I think
 20 that, you know, if I see a test repeated every
 21 so often, that's okay. But if I see a test
 22 that's negative, even if it's--that should
 23 really be positive, that's something that will
 24 make me call the pathologist up and ask it to
 25 be redone.

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1 MR. SIMMONS:
 2 Q. So that would be the circumstance that would
 3 cause, be more likely to cause you to make an
 4 inquiry?
 5 DR. BRUFISKY:
 6 A. Yes.
 7 MR. SIMMONS:
 8 Q. Where it's a case that you expected to be
 9 positive and turned out negative, then just to
 10 report from the lab that we've redone it, it
 11 was -
 12 DR. BRUFISKY:
 13 A. Yes, one that's redone -
 14 MR. SIMMONS:
 15 Q. - originally one thing and the other -
 16 DR. BRUFISKY:
 17 A. - every couple of months or whatever, no, I
 18 would not have a problem with it. But if
 19 suddenly there are four or five that the test
 20 was redone, I would get on the phone and call
 21 the pathologist, yes.
 22 MR. SIMMONS:
 23 Q. Okay. Now, you did tell us about the
 24 retesting that was done at, I gather, at your
 25 institution for these lobular cases about ten

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1 years ago, you say?
 2 DR. BRUFISKY:
 3 A. They weren't only lobular, they were a bunch
 4 of different kind of cases besides lobular,
 5 but, yeah.
 6 MR. SIMMONS:
 7 Q. Okay.
 8 DR. BRUFISKY:
 9 A. Again, I don't recall the details precisely.
 10 It was a long time ago.
 11 MR. SIMMONS:
 12 Q. And did I understand correctly that there was
 13 only ten or 15 cases that were retested?
 14 DR. BRUFISKY:
 15 A. There wasn't a lot, that's correct.
 16 MR. SIMMONS:
 17 Q. Okay. And what was it that triggered the
 18 decision to do a retest of that?
 19 DR. BRUFISKY:
 20 A. I think there were a number of cases actually
 21 brought to our attention by a pathologist who
 22 had recently been hired who said, gosh, you
 23 know, these are lobular, this is a lobular
 24 cancer, this is a tubular, shouldn't these be
 25 positive, let's go back and recheck some

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1 things.
 2 MR. SIMMONS:
 3 Q. Right. So the retesting then that was done
 4 was of the specific cases that were called
 5 into question, was it?
 6 DR. BRUFISKY:
 7 A. Correct.
 8 MR. SIMMONS:
 9 Q. Was there any consideration given then to the
 10 possibility of there being some broader
 11 underlying reason why these tests were
 12 changing?
 13 DR. BRUFISKY:
 14 A. Yes, there were.
 15 MR. SIMMONS:
 16 Q. And any exploration of doing any broader
 17 retesting of cases
 18 DR. BRUFISKY:
 19 A. Yes, and I believe there had been--again, I
 20 was not as involved in that back then.
 21 MR. SIMMONS:
 22 Q. Yes.
 23 DR. BRUFISKY:
 24 A. But there was some broader analysis of the
 25 lab.

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1 MR. SIMMONS:
 2 Q. Yes.
 3 DR. BRUFISKY:
 4 A. It was felt that it was a limited, it was a
 5 situation limited to a particular point in
 6 time.
 7 MR. SIMMONS:
 8 Q. Okay. I'm just curious, I have to ask you,
 9 was there any public announcement at the time?
 10 DR. BRUFISKY:
 11 A. No, there was-of this, no. There was not of
 12 this particular thing, I don't think so. I
 13 don't recall off the top of my head.
 14 MR. SIMMONS:
 15 Q. Okay. And you have told us that the patients
 16 whose samples were retested were notified of
 17 that fact?
 18 DR. BRUFISKY:
 19 A. Yes.
 20 MR. SIMMONS:
 21 Q. I gather you said that before they were
 22 notified, the cases were considered to assess
 23 the potential for there to be impact on their
 24 treatment?
 25 DR. BRUFISKY:

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1 A. Yes, only for the reason that was done was
 2 that, again, the question someone would--we
 3 wanted to kind of have a plan for each
 4 individual patient before we told them -
 5 MR. SIMMONS:
 6 Q. Right.
 7 DR. BRUFISKY:
 8 A. - whether they needed to be retested or not.
 9 MR. SIMMONS:
 10 Q. So you wanted to be in a position to answer
 11 the questions you'd expect them to have
 12 DR. BRUFISKY:
 13 A. Correct.
 14 MR. SIMMONS:
 15 Q. - before you went to them first and raised
 16 the issue?
 17 DR. BRUFISKY:
 18 A. Correct.
 19 MR. SIMMONS:
 20 Q. Yeah. Now, was there ever any--did anyone
 21 ever figure out what had happened to cause the
 22 tests to be changed once they were redone?
 23 DR. BRUFISKY:
 24 A. I think they did. I think--again, I don't
 25 remember off the top of my head because I'm

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1 not a pathologist.
 2 MR. SIMMONS:
 3 Q. Right.
 4 DR. BRUFISKY:
 5 A. But I do recall that there were some things
 6 that were found in the system.
 7 MR. SIMMONS:
 8 Q. Yes, okay.
 9 DR. BRUFISKY:
 10 A. That were altered.
 11 MR. SIMMONS:
 12 Q. Do you know if there was anything done then to
 13 contact those patients and explain to them
 14 what had happened and why the test results
 15 were changed or would you know?
 16 DR. BRUFISKY:
 17 A. I don't know off the top of my head. All I
 18 remember, because my role in it was to contact
 19 the patient, so that was my, that's what I
 20 remember of it.
 21 MR. SIMMONS:
 22 Q. Right. Do you have any recollection of making
 23 any follow-up contact with them once any
 24 investigation -
 25 DR. BRUFISKY:

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1 A. Well, the vast majority of them were my own
 2 patients, so they kept coming to see me.
 3 MR. SIMMONS:
 4 Q. Okay. You've given us a very good explanation
 5 of how you use your cancer registry data for
 6 quality control purposes in doing a study, a
 7 mandated study each year in which you identify
 8 a topic and go in and look at your statistics.
 9 Aside from that is there anything done in your
 10 institution on an annual or other basis to
 11 track and report things like the percentage of
 12 ER/PR tests that are positive -
 13 DR. BRUFISKY:
 14 A. Yes, we've had -
 15 MR. SIMMONS:
 16 Q. - and those sorts of things?
 17 DR. BRUFISKY:
 18 A. It's not--we do these projects on our own, so
 19 we've been doing the percent of tests that are
 20 ER positive, just in general, you know,
 21 positive, just--yeah, we do that on our own.
 22 MR. SIMMONS:
 23 Q. Yes. Okay, thank you, very much. That's all
 24 the questions I have for you.
 25 DR. BRUFISKY:

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1 A. You're welcome. Thank you.
 2 COMMISSIONER:
 3 Q. Mr. Browne?
 4 BROWNE, Q.C.:
 5 Q. Thank you, Commissioner.
 6 DR. ADAM BRUFISKY, EXAMINATION BY PETER BROWNE, Q.C.
 7 BROWNE, Q.C.:
 8 Q. Thank you, Commissioner. Good afternoon,
 9 Doctor. My name is Peter Browne. I represent
 10 a number of the individual physicians, both
 11 pathologists and oncologists who have
 12 testified here. Just to follow up on some of
 13 the questions both Mr. Simmons just asked you
 14 and earlier Ms. Chaytor. Firstly, Registrar,
 15 if we could have Exhibit P-2617, please? You
 16 had mentioned that in your training you, I
 17 guess, generally use ten percent?
 18 DR. BRUFISKY:
 19 A. Yes.
 20 BROWNE, Q.C.:
 21 Q. And that was your understanding?
 22 DR. BRUFISKY:
 23 A. Correct.
 24 BROWNE, Q.C.:
 25 Q. This is an article, I'm not sure if you've

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1 seen this article previously, by Dr. Layfield.
 2 DR. BRUFISKY:
 3 A. Um-hm.
 4 BROWNE, Q.C.:
 5 Q. And others. And it's a survey of, you'll just
 6 see here now in the abstract portion, they
 7 surveyed 300 laboratories within the United
 8 States. And I've actually put this out
 9 previously to Dr. Dabbs. Now, he thought they
 10 may have included some labs within Canada, but
 11 it clearly indicates the -
 12 DR. BRUFISKY:
 13 A. Oh, yes, the United States.
 14 BROWNE, Q.C.:
 15 Q. United States. And if we go to--I'll just
 16 scroll down here now. Just bear with me here.
 17 It's actually highlighted. You'll see the
 18 highlighted areas there, Doctor, and it shows--
 19 just trying to see now where this indicates.
 20 And there's probably an earlier comment. But
 21 it does indicate cutoff points.
 22 DR. BRUFISKY:
 23 A. Right.
 24 BROWNE, Q.C.:
 25 Q. Of 30 percent in some of the labs. Let me

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1 just see what my copy here--I'll just find
 2 one, ninety-three here. Just bear with me,
 3 I'm just trying to--oh, here it is lower down.
 4 I don't seem to have the section here. Let me
 5 just--oh, here we go. And there's earlier
 6 points here. He says, "The oncologists vary
 7 significantly in the threshold they use to
 8 classify specimens as positive. The reported
 9 cutoff for positivity vary from any staining
 10 to a cutoff point of at least 30 percent of
 11 nuclei."
 12 DR. BRUFISKY:
 13 A. Um-hm.
 14 BROWNE, Q.C.:
 15 Q. So at least some of the responses here, and
 16 there is, you think, if you look back at Table
 17 7, an indication, as well, albeit a--and I
 18 don't think there was actually a very good
 19 response rate from all the--I think they
 20 surveyed 300 and I think -
 21 DR. BRUFISKY:
 22 A. Right.
 23 BROWNE, Q.C.:
 24 Q. - in total they only got -
 25 DR. BRUFISKY:

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1 A. Twenty-seven.
 2 BROWNE, Q.C.:
 3 Q. - 80 responses in total. But nevertheless, it
 4 does indicate that some of the labs, at least
 5 one of the respondents here, not--shouldn't
 6 say labs. Some of the oncologists were using
 7 a 30 percent cutoff within the United States.
 8 DR. BRUFISKY:
 9 A. Right, seven of--two of 27.
 10 BROWNE, Q.C.:
 11 Q. Yeah. So again, while it's -
 12 DR. BRUFISKY:
 13 A. Oh, there's some distribution, absolutely.
 14 Because again, this was done when the tests
 15 were negative and the paper from Allred, which
 16 I think really -
 17 BROWNE, Q.C.:
 18 Q. Yes.
 19 DR. BRUFISKY:
 20 A. - this paper, really which established the ten
 21 percent for most people had just really been--
 22 had come out, I think, in '99. Actually,
 23 let's take a look.
 24 BROWNE, Q.C.:
 25 Q. Yes, I think Allred and Harvey -

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1 DR. BRUFISKY:
 2 A. Allred paper came out in '99. And again, the
 3 rate-it was a new test. The Allred paper came
 4 out in '99. The way that medical oncology
 5 information percolates down through most
 6 oncologists is not--most oncologists are
 7 really conservative and so--you know, but
 8 that's not surprising that a couple of
 9 oncologists would say 30 percent.
 10 BROWNE, Q.C.:
 11 Q. It wouldn't be surprising that this move
 12 towards ten percent occurred much later, say,
 13 2000, 2001 in terms of -
 14 DR. BRUFISKY:
 15 A. I would say that's about right, I would say in
 16 that area. I mean, again, but very--I mean,
 17 when I trained, and again, I trained around
 18 the time this was done, we thought it was ten
 19 percent. We never thought it was 30.
 20 BROWNE, Q.C.:
 21 Q. Thank you. Again just to go back on a
 22 question Mr. Simmons asked you about the
 23 retest of these 10 to 15 patients, and you
 24 mentioned some of these patients were lobulars
 25 and tubulars, and you mentioned in response

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1 that you were - because most of these patients
 2 were your patients that the pathologist had
 3 identified. Did you have the results in hand
 4 when you contacted the patients to inform
 5 them?
 6 DR. BRUFISKY:
 7 A. The new result?
 8 BROWNE, Q.C.:
 9 Q. Yes, the retest result.
 10 DR. BRUFISKY:
 11 A. The retest result. I don't remember off the
 12 top of my head. I can't remember, obviously.
 13 I'd have to really think about it and go back
 14 to the list. I think what I had was - I did
 15 not have the retesting, but I had - when we
 16 talked to them, I had the fact that their
 17 tests were not - I'm trying to think off the
 18 top of my head. I just don't remember. I
 19 can't really tell you one way or the other.
 20 BROWNE, Q.C.:
 21 Q. What was the general response of the patients,
 22 do you recall, in terms of -
 23 DR. BRUFISKY:
 24 A. They were happy that they were told. The vast
 25 majority - if I recall this correctly, there

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1 was maybe one person out of, like, the 10 or
 2 15 that I recall that would have had her
 3 treatment changed. So the rest of them were,
 4 like, thanks for doing this, you know, and we
 5 explained to them it would have made no
 6 difference in their therapy. One or two we
 7 couldn't find, they'd moved out of the area,
 8 so it was hard to find the people.
 9 BROWNE, Q.C.:
 10 Q. And again there was some questioning, both
 11 from the Commissioner and from Ms. Chaytor, on
 12 data collection and you had mentioned that, I
 13 guess, you compile your own data within -
 14 DR. BRUFISKY:
 15 A. Over and above that data that's required by
 16 the American College of Surgeons.
 17 BROWNE, Q.C.:
 18 Q. But within sort of the oncology side, you had
 19 mentioned, I think, that there is sort of data
 20 collection on the pathology side as well.
 21 DR. BRUFISKY:
 22 A. Yes.
 23 BROWNE, Q.C.:
 24 Q. Is there any linkages that occur to sort of
 25 say, okay, to compile all this information to

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1 use - I'm sure the pathologists are collecting
 2 information that would be of use to you and
 3 vice versa. Is there sort of that interchange
 4 that occurs as well at some point?
 5 DR. BRUFISKY:
 6 A. Well, we're actually trying - you know, that's
 7 a very interesting question. We have - data
 8 is collected at the tumour registry, and data
 9 is collected by the pathologists on their
 10 pathology report. Theoretically, that data
 11 should be merged.
 12 BROWNE, Q.C.:
 13 Q. Right.
 14 DR. BRUFISKY:
 15 A. We have spent the last five years negotiating
 16 to try to figure out how to merge it because
 17 there are two separate computer systems, and I
 18 think that's the - even if they're two
 19 separate computer systems, it seems like a
 20 fairly trivial exercise to merge two datasets.
 21 BROWNE, Q.C.:
 22 Q. We've heard a lot about that. The
 23 Commissioner has heard a lot about that here.
 24 DR. BRUFISKY:
 25 A. Right, it's a lot more - it's a lot less of a

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1 trivial exercise than you think when you start
 2 thinking about doing it.
 3 BROWNE, Q.C.:
 4 Q. But for effective patient care, do you think
 5 that that would be a very useful exercise?
 6 DR. BRUFISKY:
 7 A. Absolutely, yes, and I've fought for that in
 8 our institution for many years, yes.
 9 BROWNE, Q.C.:
 10 Q. Because Dr. Dabbs talked about on his side the
 11 use of metrics and so on in terms of tracking.
 12 That again would be something very useful for
 13 oncology.
 14 DR. BRUFISKY:
 15 A. Oh, absolutely, I agree, and we tried to get
 16 metrics from our registry data, but the
 17 problem is the registry data is always at
 18 least a couple of months behind, so it's not
 19 in real time.
 20 BROWNE, Q.C.:
 21 Q. Again I think both Mr. Simmons and Ms. Chaytor
 22 asked you about your tumour board, how that
 23 operates and so on. When patients are
 24 discussed there, are they discussed with - I
 25 guess, their clinical histories reviewed, the

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1 tumour, the tumour size, staging, and all that
 2 is discussed. Are there recommendations that
 3 come out to the particular oncologists?
 4 DR. BRUFISKY:
 5 A. Yes.
 6 BROWNE, Q.C.:
 7 Q. And those are recommendations, and is the
 8 purpose of the recommendations then for the
 9 oncologist to meet with the patient -
 10 DR. BRUFISKY:
 11 A. Yes.
 12 BROWNE, Q.C.:
 13 Q. And discuss what sort of treatment should be
 14 given?
 15 DR. BRUFISKY:
 16 A. Yes, but again we can't - because of our
 17 volumes, we can't do it for everybody.
 18 BROWNE, Q.C.:
 19 Q. Correct.
 20 DR. BRUFISKY:
 21 A. So we can only do it for a certain percentage
 22 of our patients, but, yes.
 23 BROWNE, Q.C.:
 24 Q. And I guess you have some general familiarity
 25 with what occurred here at Eastern Health in

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1 terms of the offering of both Tamoxifen and
 2 aromatase inhibitors to patients. Would it be
 3 useful, do you think, in this setting to as
 4 well have - if the data would be compiled,
 5 information regarding outcomes? There are
 6 oncologists who have talked about that -
 7 DR. BRUFISKY:
 8 A. Yes.
 9 BROWNE, Q.C.:
 10 Q. As being an important feature of this whole
 11 exercise is to know what sort of -
 12 DR. BRUFISKY:
 13 A. I think that would be an incredibly important
 14 feature.
 15 BROWNE, Q.C.:
 16 Q. Because it will address this whole issue, this
 17 question that remains unanswered, you said, in
 18 terms of what effect does this have on
 19 patients?
 20 DR. BRUFISKY:
 21 A. Correct, and I think that it's a very - the
 22 absolute effect would be a very - I think, a
 23 very useful item, not only for you here in
 24 Newfoundland, but everybody who studies breast
 25 cancer, we would really like to know what

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1 those results were.
 2 BROWNE, Q.C.:
 3 Q. Thank you, doctor. That's all my questions.
 4 DR. BRUFISKY:
 5 A. You're welcome.
 6 THE COMMISSIONER:
 7 Q. Mr. Pritchett, any questions?
 8 MR. PRITCHETT:
 9 Q. No questions, Commissioner.
 10 THE COMMISSIONER:
 11 Q. Ms. Newbury.
 12 DR. ADAM BRUFISKY - EXAMINATION BY MS. JENNIFER NEWBURY
 13 MS. NEWBURY:
 14 Q. Good afternoon, Doctor. My name is Jennifer
 15 Newbury, and I represent the Newfoundland and
 16 Labrador Division of the Canadian Cancer
 17 Society. I want to ask you first of all about
 18 statistics for ER and PR results, and in
 19 particular if you are familiar with the
 20 breakdown of percentages of ER negative, PR
 21 positive, ER negative, PR positive, etc. Is
 22 that something that you -
 23 DR. BRUFISKY:
 24 A. I think I can give a general idea.
 25 MS. NEWBURY:

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1 Q. Okay, starting with ER negative, PR positive?
 2 DR. BRUFISKY:
 3 A. Probably 5 percent or less.
 4 MS. NEWBURY:
 5 Q. And ER negative, PR negative?
 6 DR. BRUFISKY:
 7 A. Okay, so of all - okay, I've got to think
 8 about this. It depends if you're pre or post
 9 menopausal, but I'll just give you a general
 10 idea.
 11 MS. NEWBURY:
 12 Q. Sure.
 13 DR. BRUFISKY:
 14 A. It's probably about 35 to 40 percent.
 15 MS. NEWBURY:
 16 Q. 35 to 40 percent would be -
 17 DR. BRUFISKY:
 18 A. In my practice.
 19 MS. NEWBURY:
 20 Q. ER negative and PR negative?
 21 DR. BRUFISKY:
 22 A. Both negative.
 23 MS. NEWBURY:
 24 Q. Okay, and is there a difference? You just
 25 indicated that it would depend on pre or post

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1 menopausal.
 2 DR. BRUFISKY:
 3 A. Generally post-menopausal women have a lower
 4 proportion of ER/PR positives. Probably again
 5 with my practice, just looking at my practice
 6 off the top of my head, probably 20 percent.
 7 MS. NEWBURY:
 8 Q. Okay, and ER positive, PR negative?
 9 DR. BRUFISKY:
 10 A. ER positive, PR negative, probably - again
 11 overall, the total percentage of ER positives
 12 completely - because I tend to not use the PR
 13 any more.
 14 MS. NEWBURY:
 15 Q. Okay.
 16 DR. BRUFISKY:
 17 A. But ER positive probably in my practice, pre-
 18 menopausal, 50 percent, post-menopausal, 60
 19 percent, and of those maybe 20 percent are ER
 20 positive, PR negative.
 21 MS. NEWBURY:
 22 Q. 20 percent of those are ER positive, PR
 23 negative, regardless of whether pre or post
 24 menopausal?
 25 DR. BRUFISKY:

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1 A. Yes, yeah.
 2 MS. NEWBURY:
 3 Q. And is that something that your institution
 4 monitors just to see if your rates are in line
 5 with -
 6 DR. BRUFISKY:
 7 A. Yes.
 8 MS. NEWBURY:
 9 Q. And what group within your institution would
 10 monitor that?
 11 DR. BRUFISKY:
 12 A. It would be the cancer committee that I had
 13 discussed, the ACS Cancer Committee.
 14 MS. NEWBURY:
 15 Q. And you were just mentioning that there are
 16 two datasets, I think, between the cancer
 17 registry and the pathologists?
 18 DR. BRUFISKY:
 19 A. Correct.
 20 MS. NEWBURY:
 21 Q. They each keep a - is there a duplication of
 22 the data?
 23 DR. BRUFISKY:
 24 A. There is.
 25 MS. NEWBURY:

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1 Q. Okay, and are there any instances where
 2 neither keeps data on significant -
 3 DR. BRUFISKY:
 4 A. Generally, between one or the other, we get
 5 most of the significant data points we want.
 6 The issues that we run into are that the
 7 pathology data tends to be more accurate in
 8 general when we do audits of it.
 9 MS. NEWBURY:
 10 Q. Okay.
 11 DR. BRUFISKY:
 12 A. Than the registry data.
 13 MS. NEWBURY:
 14 Q. And would oncologists have access to the
 15 information for the pathologists?
 16 DR. BRUFISKY:
 17 A. Yes.
 18 MS. NEWBURY:
 19 Q. That they collect, and the cancer registry as
 20 well, obviously?
 21 DR. BRUFISKY:
 22 A. Yes.
 23 MS. NEWBURY:
 24 Q. You just mentioned, and you'd mentioned
 25 earlier this morning, that in your view ER

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1 positivity is not a predictive marker with
 2 respect to response to Tamoxifen?
 3 DR. BRUFISKY:
 4 A. Not as much as I think it was previously
 5 believed to be.
 6 MS. NEWBURY:
 7 Q. Okay, and when did that learning -
 8 DR. BRUFISKY:
 9 A. Within the last two years, especially the data
 10 that I showed you from the San Antonio Breast
 11 Symposium last year.
 12 MS. NEWBURY:
 13 Q. Okay, and that applies to other types of
 14 hormonal treatments as well?
 15 DR. BRUFISKY:
 16 A. Yes.
 17 MS. NEWBURY:
 18 Q. Okay, and does this mean that generally an ER
 19 negative PR positive patient would not be
 20 offered hormonal therapy?
 21 DR. BRUFISKY:
 22 A. It depends on the degree of PR positivity. I
 23 think that if a woman comes in like I - say,
 24 she's PR positive 5 percent, I personally
 25 would not offer her hormonal therapy. There

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1 would be oncologists who would, and again
 2 there's a lot of debate, but if I were
 3 presented that sort of patient in the tumour
 4 board, I would say do not offer her hormonal
 5 therapy.
 6 MS. NEWBURY:
 7 Q. And that's perhaps consistent with how you
 8 would treat an ER positive patient as well? I
 9 think your evidence is that -
 10 DR. BRUFISKY:
 11 A. Correct.
 12 MS. NEWBURY:
 13 Q. Even at ER 5 percent, you wouldn't necessarily
 14 offer -
 15 DR. BRUFISKY:
 16 A. Right. Where the question becomes is the very
 17 rare patient, and I think Dr. Dabbs may have
 18 talked about in our institution.
 19 MS. NEWBURY:
 20 Q. Uh-hm.
 21 DR. BRUFISKY:
 22 A. The very rare patient who is ER negative and
 23 PR, say, 30 or 40 percent, that is a patient
 24 that, I think, not a lot of us know what to do
 25 with.

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1 MS. NEWBURY:
 2 Q. And you say rare because it's not a frequent
 3 occurrence?
 4 DR. BRUFISKY:
 5 A. It's not a very frequent occurrence at all.
 6 MS. NEWBURY:
 7 Q. And how would you typically respond if you
 8 came across such a patient?
 9 DR. BRUFISKY:
 10 A. I probably would want the test - I probably
 11 would want her ER/PR retested.
 12 MS. NEWBURY:
 13 Q. Okay, and if you did that, and found out that
 14 the results were valid, is there any guideline
 15 as to how that particular patient would be
 16 treated?
 17 DR. BRUFISKY:
 18 A. I think some - there are guidelines. I'm not
 19 sure how much I trust them. I probably - if
 20 that were the case, I probably would give that
 21 particular woman an anti-hormonal treatment,
 22 yes.
 23 MS. NEWBURY:
 24 Q. Okay.
 25 THE COMMISSIONER:

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1 Q. Excuse me, but while we're on the topic, you
 2 indicate that this - not just your evidence,
 3 but evidence of other people here, have
 4 suggested - at least I'm taking that evidence
 5 to suggest that the question of PR positivity
 6 has been somewhat like the pendulum swinging.
 7 DR. BRUFISKY:
 8 A. Yes.
 9 THE COMMISSIONER:
 10 Q. Back and forth over time. So what you have
 11 been responding, I take it, is in light of the
 12 research that has become available over the
 13 last couple of years. So can I also take it
 14 that, say, in 2002 or 2003, then the
 15 likelihood of being treated for an ER negative
 16 PR positive would be higher than it is now?
 17 DR. BRUFISKY:
 18 A. Yes, that is exactly correct.
 19 MS. NEWBURY:
 20 Q. And can you indicate sort of the general
 21 trends that you're familiar with in the United
 22 States or elsewhere, if you're familiar, when
 23 would the ER negative PR positive patient have
 24 first been offered typically hormonal
 25 treatment?

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1 DR. BRUFISKY:
 2 A. Probably around the time anti-hormonal - IHCs
 3 were being done. So even in the days of
 4 hormone binding assays, I think.
 5 MS. NEWBURY:
 6 Q. So mid to late 1990s for sure this was being
 7 done.
 8 DR. BRUFISKY:
 9 A. Yeah.
 10 MS. NEWBURY:
 11 Q. And it wasn't until a couple of years ago that
 12 that -
 13 DR. BRUFISKY:
 14 A. And it's still - in the minds of some people,
 15 it's still not totally - I mean, in my mind it
 16 is, but in the minds of other prominent
 17 oncologists, they still treat PR positive
 18 patients.
 19 MS. NEWBURY:
 20 Q. Yes, and again this is a small group because
 21 you've indicated --
 22 DR. BRUFISKY:
 23 A. It us.
 24 MS. NEWBURY:
 25 Q. Less than 5 percent would fall into that

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1 category?
 2 DR. BRUFISKY:
 3 A. Yes.
 4 MS. NEWBURY:
 5 Q. So there's not a whole lot of opportunity, I
 6 guess, to -
 7 DR. BRUFISKY:
 8 A. Correct.
 9 MS. NEWBURY:
 10 Q. Continually deal with these patients. In
 11 terms of the hormonal treatment for positive -
 12 ER positive patients, I think it's your
 13 evidence that the rate of positivity wouldn't
 14 affect whether or not hormonal treatment is
 15 offered?
 16 DR. BRUFISKY:
 17 A. No, I think as long as - at least in my mind,
 18 if it's over 10, it should be offered.
 19 MS. NEWBURY:
 20 Q. And I think you were commenting this morning
 21 on whether or not the rate of positivity would
 22 affect other forms of treatment, such as
 23 chemotherapy.
 24 DR. BRUFISKY:
 25 A. Yes.

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1 MS. NEWBURY:
 2 Q. I wonder if you could just review what the
 3 characteristics are of a patient who would
 4 receive hormonal therapy but would not receive
 5 chemotherapy?
 6 DR. BRUFISKY:
 7 A. A typical patient in the days before Oncotype
 8 DX, because now we have this Oncotype DX test,
 9 which is making a lot of the decisions for us,
 10 but I would say that generally a woman who
 11 walks in, 60 years old, 1.2 centimetre breast
 12 cancer, kind of small in our business, has an
 13 ERH score of 250, has a Nottingham score of
 14 six, five or six, that is lymph node negative,
 15 that's a typical patient I would give hormonal
 16 therapy only to.
 17 MS. NEWBURY:
 18 Q. And would such a patient receive any
 19 radiation?
 20 DR. BRUFISKY:
 21 A. If she did not have a mastectomy, yes.
 22 MS. NEWBURY:
 23 Q. Okay.
 24 DR. BRUFISKY:
 25 A. Almost all women receive radiation.

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1 MS. NEWBURY:
 2 Q. And would an ER negative PR positive patient
 3 be in the same category of if they meet the,
 4 you know, 60 years of age as an example?
 5 DR. BRUFISKY:
 6 A. Sixty years of age, ER negative, PR 5 percent,
 7 low PR, I would say that woman would likely
 8 get chemotherapy. We'd talk about it, but she
 9 may get chemotherapy.
 10 MS. NEWBURY:
 11 Q. How about if that same patient was ER negative
 12 PR 60 or 40?
 13 DR. BRUFISKY:
 14 A. What I would do in that case - thankfully we
 15 have Oncotype DX in the United States. I
 16 would do an Oncotype DX on her to make my
 17 decision, but assuming she did not - we did
 18 not have that test, that would be a very tough
 19 question, and I think - you know, I remember
 20 the kinds of - I've had a few of those in my
 21 career, and I would sit and I would - I mean,
 22 there's a lot of other instances that will go
 23 into this. I would tell the patient of the
 24 uncertainty concerning the benefit of hormonal
 25 therapy in her case, and it is likely that

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1 that woman would get both. I would probably
 2 treat her with chemo and hormonal therapy.
 3 MS. NEWBURY:
 4 Q. Okay, and would there be any other differences
 5 in, for example, the types of chemotherapy or
 6 the duration of chemotherapy based on the rate
 7 of positivity, either ER positivity or PR
 8 positivity, or some combination of that?
 9 DR. BRUFISKY:
 10 A. If it's over 10 percent, I consider it ER
 11 positive for the sake of discussion. I would
 12 not necessarily change someone's chemotherapy.
 13 Chemotherapy changes for me have more to do
 14 with the type and number of cycles, for
 15 example, have more to do with the size of the
 16 cancer and the number of lymph nodes involved.
 17 MS. NEWBURY:
 18 Q. Dr. Brufsky, you've indicated that, I believe,
 19 it's the Cancer Program Standards require that
 20 10 percent of cases be reviewed by the tumour
 21 board?
 22 DR. BRUFISKY:
 23 A. Correct.
 24 MS. NEWBURY:
 25 Q. Or multidisciplinary committee.

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1 DR. BRUFISKY:
 2 A. Uh-hm.
 3 MS. NEWBURY:
 4 Q. That's one and the same, I take it, is it?
 5 DR. BRUFISKY:
 6 A. Yes.
 7 MS. NEWBURY:
 8 Q. Okay, and of those, 75 percent would be
 9 reviewed prospectively. I'm wondering are
 10 there any criteria for how exactly those cases
 11 are brought to the tumour board?
 12 DR. BRUFISKY:
 13 A. No. It used to be every case, but again as we
 14 got bigger, it couldn't be. What we try to do
 15 is have people bring their most difficult
 16 cases to the board or cases that present a
 17 conundrum.
 18 MS. NEWBURY:
 19 Q. Uh-hm.
 20 DR. BRUFISKY:
 21 A. For example, something that's just unusual,
 22 doesn't happen all the time, and really people
 23 - cases that people need advice for.
 24 MS. NEWBURY:
 25 Q. Okay.

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1 DR. BRUFISKY:
 2 A. That is out of the ordinary.
 3 MS. NEWBURY:
 4 Q. Is there any component for bringing some
 5 randomly selected cases?
 6 DR. BRUFISKY:
 7 A. We don't bring randomly selected cases, but
 8 what we've tried to do over the years is that
 9 when - because I help run the tumour board,
 10 and so - with the surgeon, and so what we try
 11 to do over time is if the cases get too
 12 esoteric, is go back and always have some that
 13 are garden variety that we just selected.
 14 MS. NEWBURY:
 15 Q. Okay.
 16 DR. BRUFISKY:
 17 A. That we have a fellow - one of the fellows
 18 pick.
 19 MS. NEWBURY:
 20 Q. So you try to at least cover off the different
 21 bases there?
 22 DR. BRUFISKY:
 23 A. Right, but it's not random which is - we've
 24 really debated that, actually, whether they
 25 should be random to get a random sampling, but

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1 they're not - I have to admit it's not a
 2 random sample.
 3 MS. NEWBURY:
 4 Q. And is the purpose for trying to get some of
 5 the more garden variety cases to make sure
 6 that quality control for those types of cases?
 7 DR. BRUFISKY:
 8 A. There's not only a quality control function,
 9 but there's educational function for the staff
 10 as well.
 11 MS. NEWBURY:
 12 Q. Right, okay, and when a case is brought to the
 13 tumour board, how does that work, how does the
 14 case get presented to the board?
 15 DR. BRUFISKY:
 16 A. So we have a listing that goes out to
 17 everybody, the four to five cases per week
 18 that we do.
 19 MS. NEWBURY:
 20 Q. Uh-hm.
 21 DR. BRUFISKY:
 22 A. It obviously doesn't list the patient's name
 23 for privacy reasons, but it lists the case and
 24 what the question that we want discussed is.
 25 MS. NEWBURY:

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1 Q. Uh-hm.
 2 DR. BRUFISKY:
 3 A. Then what happens is that it goes to the
 4 radiologist, the pathologist, the medical
 5 oncologist, and the surgeon that's involved in
 6 the case.
 7 MS. NEWBURY:
 8 Q. Okay.
 9 DR. BRUFISKY:
 10 A. The pathology is pulled and computerized, so
 11 there's photo micrographs taken. The
 12 mammograms are digitized, or whatever films we
 13 have, be they MRIs, are digitized, and then
 14 they're presented. Usually we try to get one
 15 of the junior faculty or the fellows to
 16 present the cases, but occasionally the senior
 17 people do it as well, and you'll present the
 18 case. You'll do a case history and you'll
 19 present the pathology, or you'll present the
 20 mammography or whatever, MRIs, and then we'll
 21 discuss the MRIs. Then we'll go to the
 22 pathology and present a photo micrograph and
 23 we'll discuss that. Then we'll have a
 24 discussion of whatever issue has come up. If
 25 the issue involves the pathology, we'll

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1 discuss the pathology, or some strange thing
 2 that happened with that - you know, just an
 3 example of some acute quality controls that
 4 happen, just to give you an example of what
 5 happens. One thing that we've tried to do is
 6 - this used to happen, doesn't happen as much
 7 any more, when someone repots micro-
 8 calcifications in a breast, will stick a wire
 9 in and the surgeon will cut around the wire
 10 and then the specimen will be mammogrammed to
 11 make sure the calcifications are in the
 12 specimen. So there will be cases where
 13 occasionally the wire will come out, or
 14 occasionally, you know, how often are we
 15 really getting all the micro calcifications,
 16 the mammogram - we'll present a case - even
 17 though the radiologists do their own quality
 18 control on that, we'll bring one of those
 19 cases to everybody just to make sure that
 20 everybody is aware of this sort of thing.
 21 MS. NEWBURY:
 22 Q. Right.
 23 DR. BRUFISKY:
 24 A. So the information is spread across all
 25 disciplines.

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1 MS. NEWBURY:
 2 Q. And that's the educational component?
 3 DR. BRUFISKY:
 4 A. That's the educational component, which is
 5 also a quality component as well.
 6 MS. NEWBURY:
 7 Q. Right, sure, and in terms of the people
 8 participating in the presentation of the case,
 9 you indicated that usually a junior fellow
 10 would present the case?
 11 DR. BRUFISKY:
 12 A. Or whoever the doctor who takes care of the
 13 patient is, the senior fellow, or me, or
 14 whatever.
 15 MS. NEWBURY:
 16 Q. And is there a practice that at least one of
 17 the actual treating physicians for the patient
 18 be present?
 19 DR. BRUFISKY:
 20 A. Oh, absolutely, yes, the treating physician
 21 has to be there or we won't present their
 22 case.
 23 MS. NEWBURY:
 24 Q. Okay, and what is the rationale for that?
 25 DR. BRUFISKY:

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1 A. Again because the recommendations have to be
 2 given to the patient, so they have to be given
 3 by the treating physician.
 4 MS. NEWBURY:
 5 Q. Okay, and would, say, if that primary treating
 6 physician or one of the treating physicians
 7 for the patient is not there, would there be
 8 any other appropriate means of communicating
 9 that with the patient.
 10 DR. BRUFISKY:
 11 A. We wouldn't present the case that day.
 12 MS. NEWBURY:
 13 Q. Okay.
 14 DR. BRUFISKY:
 15 A. The rare times when - say, there are two
 16 treating physicians, say, a medical oncologist
 17 and a surgeon.
 18 MS. NEWBURY:
 19 Q. Uh-hm.
 20 DR. BRUFISKY:
 21 A. And the medical oncologist is there, but the
 22 surgeon isn't, so the surgeon will communicate
 23 with the medical oncologists.
 24 MS. NEWBURY:
 25 Q. So the purpose -

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1 DR. BRUFISKY:
 2 A. There has to be - somebody there who takes
 3 care of the patient has to be present, or we
 4 don't present that case.
 5 MS. NEWBURY:
 6 Q. Right, and is it often the case that more than
 7 one of the patient's treating physician would
 8 be at the tumour board?
 9 DR. BRUFISKY:
 10 A. You mean, one of the patient's treating
 11 physicians has to be at the tumour board?
 12 Yes.
 13 MS. NEWBURY:
 14 Q. I'm just saying - I'm wondering if there are
 15 instances or whether there's a -
 16 DR. BRUFISKY:
 17 A. Where a patient is presented where there's
 18 nobody treating the patient at the tumour
 19 board?
 20 MS. NEWBURY:
 21 Q. No, I'm just wondering if there's ever a
 22 situation or a practice or a guideline that
 23 more than one of the patient's physicians be
 24 at that? Do you try to get -
 25 DR. BRUFISKY:

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1 A. We don't have formal guidelines, but we
 2 definitely - we, the leaders of the tumour
 3 board, are not happy when a treating physician
 4 is not there, okay.
 5 MS. NEWBURY:
 6 Q. Okay, so -
 7 DR. BRUFISKY:
 8 A. We generally - it's not a formal rule.
 9 MS. NEWBURY:
 10 Q. Right.
 11 DR. BRUFISKY:
 12 A. But generally more often than not, all the
 13 treating physicians involved with the
 14 patient's care are there.
 15 MS. NEWBURY:
 16 Q. So that's encouraged, I guess?
 17 DR. BRUFISKY:
 18 A. Oh, it's very strongly encouraged, yes
 19 MS. NEWBURY:
 20 Q. Strongly encouraged, okay, thank you. At the
 21 time the case is presented to the tumour
 22 board, is there an expectation that all sort
 23 of up to date information pertaining to the
 24 patient, the current, I guess, comorbidity is
 25 the term that's used -

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1 DR. BRUFISKY:
 2 A. Yes.
 3 MS. NEWBURY:
 4 Q. All of that information is available at that
 5 time?
 6 DR. BRUFISKY:
 7 A. Yes, and if we do not have, for example, the
 8 photo micrographs, or the pathology, or the
 9 reproductions of the radiology, we won't
 10 present the case until that's done.
 11 MS. NEWBURY:
 12 Q. And in terms of the prospective cases, and
 13 that would be 75 percent of the 10 that are
 14 reviewed by the tumour board, are there any
 15 timelines considering that it's dealing with
 16 how the patient will be treated in the future?
 17 DR. BRUFISKY:
 18 A. There are guidelines. That's why -
 19 MS. NEWBURY:
 20 Q. As to how quickly that has to be brought?
 21 DR. BRUFISKY:
 22 A. Right, and so that's always been an issue.
 23 Again, when we have a breast evaluation centre
 24 and we can do 10 or 15 cases quickly every
 25 week, like some breast programs, we did them

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1 all, whatever came in that week. But as we
 2 got bigger--as we got larger, we had to go
 3 away from the totally prospective way of doing
 4 it. So in other words, again, if the
 5 pathologists and radiologists--not
 6 pathologists, but for example, if you do a
 7 prospective case and something is missing,
 8 either the attendings or the pathology
 9 radiology, that just would not be one of the
 10 prospective ones we did that day.
 11 MS. NEWBURY:
 12 Q. Okay.
 13 DR. BRUFISKY:
 14 A. So for the prospective ones, they have to be
 15 done within, you know, the time of the
 16 treatment, for example, you know, a patient's
 17 two weeks post-operative. She sees me in my
 18 clinic. I'll present her that next Thursday
 19 at our breast conference. So that's within
 20 three weeks basically and we try to encourage
 21 that for prospective cases at least.
 22 MS. NEWBURY:
 23 Q. So ultimately, if for whatever reason the
 24 physician treating the patient or all
 25 information wasn't available for the tumour

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1 board, it would not cause any delay in the
 2 treatment of that patient? You would just not
 3 deal with that case as a prospective quality
 4 review?
 5 DR. BRUFISKY:
 6 A. We just wouldn't deal with it as a
 7 prospective--we'd present it another week, but
 8 it wouldn't be considered one of our
 9 prospective cases.
 10 MS. NEWBURY:
 11 Q. So in the interim, the patient would have met
 12 with his or her treating physicians and would
 13 have been treated accordingly and then in a
 14 couple of weeks when you do bring the case to
 15 the board, you will review perhaps the -
 16 DR. BRUFISKY:
 17 A. Correct, or occasionally we won't have time to
 18 get to the case and so all the physicians will
 19 be there and will discuss it kind of on the
 20 side anyway.
 21 MS. NEWBURY:
 22 Q. Okay. You were giving evidence just a few
 23 minutes ago about whether or not you would see
 24 a red flag if there was a repeat test for
 25 ER/PR once every couple of months and you

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1 didn't see that that would really be a
 2 problem, and I think your number of cases per
 3 year is about 350. I'm just wondering if
 4 there would be any one monitoring those same
 5 types of trends, taking into account all of
 6 the 1,000 cases per year that are seen at your
 7 institution?
 8 DR. BRUFISKY:
 9 A. So the people that would be responsible for
 10 that would be the pathologists generally.
 11 MS. NEWBURY:
 12 Q. Okay.
 13 DR. BRUFISKY:
 14 A. So it wouldn't be the medical oncologists. We
 15 would do that on an individual basis.
 16 MS. NEWBURY:
 17 Q. Okay, and would they be doing that in a formal
 18 sort of manner?
 19 DR. BRUFISKY:
 20 A. The pathologists do. The medical oncologists
 21 do not.
 22 MS. NEWBURY:
 23 Q. Okay.
 24 DR. BRUFISKY:
 25 A. Outside of--again, if there were a trend that

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1 was seen in either the cancer registry or by
 2 some QA that the cancer committee had done,
 3 that's how these things would be picked up.
 4 MS. NEWBURY:
 5 Q. Okay. So the cancer registry might be
 6 monitoring such trends in addition to what the
 7 pathologists are doing?
 8 DR. BRUFISKY:
 9 A. Yes.
 10 MS. NEWBURY:
 11 Q. Okay, and who within the cancer registry would
 12 have the knowledge and expertise to know what
 13 to look for?
 14 DR. BRUFISKY:
 15 A. Right, and so that's a good point, so what
 16 would happen is that, again, we would go over
 17 certain--it would depend if that were the QA
 18 section of that year. So there was--if we
 19 decided to look at breast cancer that year, we
 20 would have one of the chief registrars, who's
 21 familiar with the registry, as well as one of
 22 the members of the cancer committee do the
 23 project together.
 24 MS. NEWBURY:
 25 Q. Okay.

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1 DR. BRUFISKY:
 2 A. And so they would--the person, the member of
 3 the cancer committee who have the expertise to
 4 help out the tumour registrar.
 5 MS. NEWBURY:
 6 Q. Okay. So you would perhaps have an oncologist
 7 there who could -
 8 DR. BRUFISKY:
 9 A. Correct.
 10 MS. NEWBURY:
 11 Q. - help to define what the parameters are for
 12 that -
 13 DR. BRUFISKY:
 14 A. Or if it was a surgical outcome, it would be a
 15 surgeon, etcetera.
 16 MS. NEWBURY:
 17 Q. Right, okay, and the person in the cancer
 18 registry that would be involved in this
 19 project, what is the--typically, what are the
 20 qualifications for that individual?
 21 DR. BRUFISKY:
 22 A. So there is a specific registrar's program. I
 23 think it's a -
 24 MS. NEWBURY:
 25 Q. Okay.

1 DR. BRUFISKY:
 2 A. There's a specific registrar's program. It's
 3 actually outlined in the exhibit.
 4 MS. NEWBURY:
 5 Q. Okay.
 6 DR. BRUFISKY:
 7 A. So it determines the qualifications of this
 8 person.
 9 MS. NEWBURY:
 10 Q. Okay, and that's outlined in the cancer
 11 program requirements?
 12 DR. BRUFISKY:
 13 A. Manual, yeah.
 14 MS. NEWBURY:
 15 Q. Thank you. I think you mentioned earlier that
 16 you might, on occasion, repeat a retest of a
 17 pathology test result that may have initially
 18 been done about five years ago, if the patient
 19 wasn't responding as expected. First of all,
 20 is that sort of an example, does that relate
 21 to an ER/PR--well, breast cancer patient?
 22 DR. BRUFISKY:
 23 A. It could be ER/PR breast cancer or it could be
 24 HER2/neu for breast cancer. Those are the
 25 ones that are most common that we repeat.

1 MS. NEWBURY:
 2 Q. Right, and could you elaborate on what you
 3 mean by the patient doesn't respond as
 4 expected?
 5 DR. BRUFISKY:
 6 A. So like the example that was shown before in
 7 the exhibit, say somebody had been on
 8 chemotherapy and just was not responding, most
 9 women with breast cancer, with metastatic
 10 breast cancer, would generally respond to
 11 something for a little bit of time.
 12 MS. NEWBURY:
 13 Q. Right.
 14 DR. BRUFISKY:
 15 A. And if they respond to nothing, then you have
 16 to question, at least I do and I teach my
 17 fellows too as well, sometimes you have to
 18 question the underlying assumptions.
 19 MS. NEWBURY:
 20 Q. Okay.
 21 DR. BRUFISKY:
 22 A. Because you're trying to do what's best for
 23 the patient.
 24 MS. NEWBURY:
 25 Q. Sure.

1 DR. BRUFISKY:
 2 A. And again, occasionally, not commonly, you
 3 will get a result that just was not correct,
 4 and I'll repeat the test, and occasionally it
 5 would be positive and we'll treat someone and
 6 they will respond.
 7 MS. NEWBURY:
 8 Q. And what types of patients, in terms of ER/PR,
 9 may not respond to chemotherapy?
 10 DR. BRUFISKY:
 11 A. If you're strongly ER/PR positive. So if
 12 you're, you know, ER, your A score is 260-270,
 13 something like that.
 14 MS. NEWBURY:
 15 Q. So then a positive--an ER, strong ER/PR
 16 positive patient may not respond as expected
 17 to chemotherapy?
 18 DR. BRUFISKY:
 19 A. Correct.
 20 MS. NEWBURY:
 21 Q. And what sort of a time frame would you start
 22 to notice those trends? I mean, how long
 23 would you be looking at -
 24 DR. BRUFISKY:
 25 A. It really depends on the patient. I mean, I

1 think that if someone, you know, had disease
 2 in her lungs or liver, like the--I mean, this
 3 was a good example. I mean, this woman took
 4 several years or several different regimens
 5 of chemo, I think four or five.
 6 MS. NEWBURY:
 7 Q. This is Ms. Deane, is it, the case that Dr.
 8 Hudis was -
 9 DR. BRUFISKY:
 10 A. Yes, Peggy Deane.
 11 MS. NEWBURY:
 12 Q. Yes.
 13 DR. BRUFISKY:
 14 A. And this is when her oncologist finally e-
 15 mailed somebody, a colleague of hers at Sloan-
 16 Kettering, you know, and said, you know, "what
 17 else is there available?" and that's when this
 18 kind of came up.
 19 MS. NEWBURY:
 20 Q. Okay. So potentially, in that case, it may
 21 have been noted at some point that the patient
 22 wasn't responding to chemotherapy as she might
 23 -
 24 DR. BRUFISKY:
 25 A. Should have.

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1 MS. NEWBURY:
 2 Q. - otherwise have been expected?
 3 DR. BRUFISKY:
 4 A. Right. It also comes out in HER2/neu testing,
 5 which is similar to this in some ways. In
 6 HER2/neu testing, someone could also not
 7 respond to chemotherapy and, you know, this is
 8 a women, say, who was estrogen receptor
 9 negative, supposedly HER2/neu negative, and
 10 I've tested women and occasionally they're
 11 really HER2/neu positive, and I give them
 12 Herceptin with--Herceptin and exactly the same
 13 chemo they didn't respond to and they respond
 14 to it. So I've had that happen frequently
 15 enough in my practice that again, if someone
 16 doesn't fit the clinical picture, you know,
 17 and is still looking for something else, we
 18 try, we try.
 19 MS. NEWBURY:
 20 Q. Thank you. You'd mentioned that you were
 21 primarily involved with regard to the 10 to 15
 22 patients whose initial ER/PR results were
 23 inaccurate.
 24 DR. BRUFISKY:
 25 A. Those were my patients, yeah.

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1 MS. NEWBURY:
 2 Q. They were your patients, and you communicated
 3 the results to them. How long a period of
 4 time had elapsed between finding out that the
 5 results were unreliable or inaccurate -
 6 DR. BRUFISKY:
 7 A. Several months.
 8 MS. NEWBURY:
 9 Q. - and actually making the communication?
 10 DR. BRUFISKY:
 11 A. Several months.
 12 MS. NEWBURY:
 13 Q. Several months, okay, and are there any
 14 guidelines as to sort of a time frame which
 15 would be acceptable for communicating any such
 16 -
 17 DR. BRUFISKY:
 18 A. You know, I don't have any guidelines per se,
 19 but I think the--I think what you need to do,
 20 at least upfront, is you need to figure out
 21 the scope of the problem and get a sense of
 22 how much it's going to affect the individual
 23 patient. I think that's the important thing,
 24 before you inform them, because I think one of
 25 the most important things when you tell

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1 somebody is what you want to know is what's
 2 going to happen to me next. You know, yeah,
 3 people will be upset that--they say "look, you
 4 know, you should have been right the first
 5 time. Why weren't you right the first time?"
 6 But then the next question is "how is this
 7 going to affect me? What's going to happen to
 8 me?" and I think it's important to have that,
 9 as best as you can, before you tell them. I
 10 mean, you don't necessarily have to have the
 11 result per se, but at least you have to like
 12 have a plan in place for the individual
 13 person.
 14 MS. NEWBURY:
 15 Q. Okay, and would that plan look at perhaps the
 16 other characteristics of that patient which
 17 might suggest that, you know, in conjunction
 18 with the unreliability of the results that
 19 perhaps this patient's treatment might change,
 20 so -
 21 DR. BRUFISKY:
 22 A. Yes, I mean, the only time it would be kind of
 23 difficult is if someone had had chemotherapy
 24 that perhaps didn't need it.
 25 MS. NEWBURY:

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1 Q. Right.
 2 DR. BRUFISKY:
 3 A. I mean, that's--but, again, you always get
 4 some benefit from chemotherapy. You'll always
 5 get some benefit. It's just some people will
 6 get very little benefit, but there's still
 7 going to be some benefit. So it's not like
 8 you're not getting any benefit at all.
 9 MS. NEWBURY:
 10 Q. Okay. Would there be a risk benefit analysis
 11 component of that?
 12 DR. BRUFISKY:
 13 A. Oh, absolutely, but I mean, but if you've
 14 given someone chemo in error, it's already
 15 done.
 16 MS. NEWBURY:
 17 Q. Yes, you can't undo it.
 18 DR. BRUFISKY:
 19 A. So you'll have to say--that's already been
 20 done, so you'll get some benefit already.
 21 MS. NEWBURY:
 22 Q. And in terms of the one patient for whom a
 23 treatment change was determined necessary, was
 24 that patient communicated or was that
 25 communicated to the patient more quickly than

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1 the other -
 2 DR. BRUFISKY:
 3 A. That woman had received chemotherapy already
 4 and the only issue was whether she should get
 5 hormonal therapy as well, and she did. We
 6 just added hormonal therapy to her treatment,
 7 probably two to three months later than we
 8 should have.
 9 MS. NEWBURY:
 10 Q. Okay, and the diagnosis of that particular
 11 patient, can you recall how much earlier the
 12 diagnosis had been?
 13 DR. BRUFISKY:
 14 A. She had node positive breast cancer, so she
 15 was going to get chemo anyway, this particular
 16 woman.
 17 MS. NEWBURY:
 18 Q. But I guess there was a particular day that
 19 you called this patient and said "we've made a
 20 -
 21 DR. BRUFISKY:
 22 A. Yeah, I mean, that was a long time ago. I
 23 have to really think through the date on that.
 24 MS. NEWBURY:
 25 Q. Okay, you don't know off the top of your head.

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1 That's fine. You'd mentioned earlier this
 2 morning that social workers attended tumour
 3 board rounds?
 4 DR. BRUFISKY:
 5 A. Yes, they do.
 6 MS. NEWBURY:
 7 Q. Just curious what the role of those
 8 individuals would be?
 9 DR. BRUFISKY:
 10 A. So we have support groups, women run support
 11 groups for breast cancer, so it's very useful
 12 to have--we actually have--they're called
 13 patient navigators. We've taken the social
 14 workers away and called them patient
 15 navigators now, but they attend the meetings
 16 and they're very helpful in kind of helping us
 17 figure out how things should be communicated
 18 to patients. Breast cancer is a very
 19 emotional disease, you know. The issues
 20 surrounding it are very emotional. And
 21 they're very useful because they're very in
 22 tune, from the support groups, for what the
 23 issues really are, at least in how things are
 24 communicated to women.
 25 MS. NEWBURY:

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1 Q. Okay, and do these patient navigators or
 2 social workers assist the medical oncologists
 3 in how the information would be relayed or do
 4 they -
 5 DR. BRUFISKY:
 6 A. Very much so, yes.
 7 MS. NEWBURY:
 8 Q. Okay. Are they actually involved in the
 9 communication?
 10 DR. BRUFISKY:
 11 A. Yeah, very much so. They are. I mean, we
 12 have books, we have whole huge binders of
 13 information, I think a lot of cancer centres
 14 do this, about breast cancer and their
 15 treatment in general, and then we have a
 16 navigator if there are more questions. We
 17 have many different levels that patients can
 18 access to get information about their cancer.
 19 MS. NEWBURY:
 20 Q. Okay, and in your institution, how many
 21 patient navigators do you typically have?
 22 DR. BRUFISKY:
 23 A. Currently, we have three. We're probably
 24 going to get more.
 25 MS. NEWBURY:

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1 Q. And they are employees of the institution?
 2 DR. BRUFISKY:
 3 A. Employees of the institution, yes.
 4 MS. NEWBURY:
 5 Q. Okay, and are they ever used or relied upon to
 6 help, I guess, track the timing of patients
 7 treatment, to help them, you know, make sure
 8 that they're being followed?
 9 DR. BRUFISKY:
 10 A. They're more advocates for the patients.
 11 MS. NEWBURY:
 12 Q. Okay.
 13 DR. BRUFISKY:
 14 A. So is that kind of--I don't know if you're
 15 asking the question -
 16 MS. NEWBURY:
 17 Q. I'm just wondering, trying to flesh out, I
 18 guess, what types of activities they might be
 19 involved in in connection -
 20 DR. BRUFISKY:
 21 A. Yeah, they're really--I mean, the best way to
 22 look at them is kind of as a patient advocate.
 23 MS. NEWBURY:
 24 Q. Yes.
 25 DR. BRUFISKY:

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1 A. So as an information--I mean, they advocate
 2 for the patient throughout the system. So if
 3 the patient does not understand something,
 4 they know where to find the information and
 5 help them.
 6 MS. NEWBURY:
 7 Q. Okay. So they can call the patient navigator
 8 and said "I had a visit with my medical
 9 oncologist yesterday -
 10 DR. BRUFISKY:
 11 A. "I'm not sure what he said."
 12 MS. NEWBURY:
 13 Q. - I was overwhelmed by the information.
 14 DR. BRUFISKY:
 15 A. Correct.
 16 MS. NEWBURY:
 17 Q. Where can I go?"
 18 DR. BRUFISKY:
 19 A. Correct.
 20 MS. NEWBURY:
 21 Q. And how about following up on perhaps a
 22 patient is waiting for certain results and -
 23 DR. BRUFISKY:
 24 A. Yes, the patient -
 25 MS. NEWBURY:

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1 Q. - wants to know what the time lines will be
 2 down the road?
 3 DR. BRUFISKY:
 4 A. Yes, and if a patient feels--the way I
 5 personally handle that in my practice, we were
 6 discussing this beforehand, is I use e-mail,
 7 which has its whole other set of issues, but
 8 the bottom line, I've decided in a risk
 9 benefit analysis for my own practice that
 10 using e-mail, the risks of e-mail and the
 11 privacy concerns are outweighed by the
 12 rapidity with which information could be
 13 conveyed to the patient and so I give all of
 14 my patients my e-mail address, and even here
 15 in St. John's, Newfoundland, I'm e-mailing
 16 people back and forth to Pittsburgh about
 17 their care, but generally, if you don't have
 18 that access to your doctor, you have things
 19 like navigators or clinic nurses that relay
 20 that information, yes.
 21 MS. NEWBURY:
 22 Q. On the issue of the benefits of Tamoxifen or
 23 hormonal therapy if it's delayed, in terms of
 24 being administered to the patient or
 25 recommended to the patient, I believe your

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1 evidence earlier this morning is that there
 2 would be a higher risk of recurrence of the
 3 cancer, particularly in the period of time
 4 that the patient was not receiving the drug
 5 and I just want to make sure I understand
 6 clearly. Say for example a patient was
 7 diagnosed in 2002, that was the initial
 8 diagnosis and the treatment wasn't started
 9 until 2006, for whatever reason, say treatment
 10 with Tamoxifen, does this mean that if there
 11 was a recurrence in the interim, that this
 12 might have been due to the delayed -
 13 DR. BRUFISKY:
 14 A. Yes.
 15 MS. NEWBURY:
 16 Q. - provision of Tamoxifen?
 17 DR. BRUFISKY:
 18 A. Yes.
 19 MS. NEWBURY:
 20 Q. And is there literature to support that or is
 21 that an inference drawn from -
 22 DR. BRUFISKY:
 23 A. It's an inference drawn from literature,
 24 because one of the peaks of recurrence is
 25 about two to three years after diagnosis.

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1 MS. NEWBURY:
 2 Q. Sure.
 3 DR. BRUFISKY:
 4 A. And generally, you know, that's one of the
 5 areas in which early hormonal therapy may be
 6 of benefit.
 7 MS. NEWBURY:
 8 Q. So I guess it stands to reason that if
 9 Tamoxifen or other hormonal therapy prevents a
 10 recurrence of cancer and if recurrence of
 11 cancer peaks at two to three years, and if you
 12 didn't get it until the fifth year, then you
 13 may have missed out on that opportunity?
 14 DR. BRUFISKY:
 15 A. Correct.
 16 MS. NEWBURY:
 17 Q. Okay, and I guess the other aspect of that, if
 18 the patient doesn't receive Tamoxifen until
 19 say 2006, but had no recurrence in the
 20 interim, the risk of recurrence after 2006, is
 21 that the issue for which there's no
 22 literature?
 23 DR. BRUFISKY:
 24 A. That is the issue for which there's no good
 25 literature. I mean, clearly, her risk is

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1 reduced, but is it the same as if she had had
 2 Tamoxifen for that entire time? No one can
 3 really answer that right now. You can
 4 indirectly try to answer it through some
 5 statistical analysis of various trials, which
 6 people, I think, are trying to do right now,
 7 but to my knowledge, in 2008, we just don't
 8 have that answer.
 9 MS. NEWBURY:
 10 Q. Okay. Thank you, Dr. Brufsky, those are all
 11 my questions.
 12 DR. BRUFSKY:
 13 A. You're welcome.
 14 THE COMMISSIONER:
 15 Q. Thank you. Mr. Pike?
 16 PIKE, Q.C.:
 17 Q. No questions, thank you very much.
 18 THE COMMISSIONER:
 19 Q. Anything arising, Ms. Chaytor? We seem to
 20 have lost--did you have a message? Okay.
 21 DR. ADAM BRUFSKY, EXAMINATION BY SANDRA CHAYTOR, Q.C.
 22 CHAYTOR, Q.C.:
 23 Q. Okay, just one issue that you were talking
 24 about the differences in opinion in oncology
 25 with Mr. Simmons in his line of questioning

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1 and the shades of grey, black and white. On
 2 the issue of you said you treat at ten percent
 3 is your cut off, and whether or not the
 4 positivity of ER makes any difference. I'm
 5 wondering, does it make any difference to your
 6 colleagues whether or not somebody is ten
 7 percent or 80 percent when you're making the
 8 decision as to whether or not to offer
 9 hormonal therapy?
 10 DR. BRUFSKY:
 11 A. Not the absolute difference. I mean, I think
 12 that some of my colleagues probably, I think,
 13 most of the real grey zone in this is between
 14 one and ten percent. I think most colleagues
 15 would agree that if you're over ten percent,
 16 you should be treated. The issue that becomes
 17 is if you're ten percent, should you get
 18 Tamoxifen and chemotherapy versus if you're 50
 19 percent, should you get Tamoxifen and
 20 chemotherapy. The real issue between ten
 21 percent and 100 percent is really should you
 22 add additional therapy to the Tamoxifen and on
 23 what level.
 24 CHAYTOR, Q.C.:
 25 Q. So does the issue of then the strength of your

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1 positivity weighs into deciding what other -
 2 DR. BRUFSKY:
 3 A. More in the chemo decision, but not into the
 4 hormonal therapy decision.
 5 CHAYTOR, Q.C.:
 6 Q. Okay, thank you. That's it.
 7 DR. BRUFSKY:
 8 A. Thank you very much.
 9 DR. ADAM BRUFSKY, EXAMINATION BY MADAME COMMISSIONER
 10 THE COMMISSIONER:
 11 Q. So just wait now, make sure I understand that.
 12 While the strength of positivity is relevant
 13 to treatment, it's not relevant to the kind of
 14 treatment that we have been concerned about as
 15 much?
 16 DR. BRUFSKY:
 17 A. Correct, not to the hormonal therapy
 18 treatment, at least in my opinion, but to
 19 whether you add chemotherapy to it. There are
 20 some oncologists who would use that to
 21 determine whether to give chemo or not.
 22 THE COMMISSIONER:
 23 Q. All right.
 24 DR. BRUFSKY:
 25 A. Not a lot, but some.

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1 THE COMMISSIONER:
 2 Q. And are you in the sort of larger camp on the
 3 business of whether or not the strength of the
 4 positivity is a factor in hormonal therapy, in
 5 your view, or is there another view out there,
 6 I guess I wanted to -
 7 DR. BRUFSKY:
 8 A. In other words--so in other words, would some
 9 -
 10 THE COMMISSIONER:
 11 Q. Would other oncologists use the strength of
 12 positivity in making a determination about
 13 treatment with hormonal therapy, for example,
 14 when there are contraindications to hormonal
 15 therapy? Would that -
 16 DR. BRUFSKY:
 17 A. Oh, I see. Now I understand the question.
 18 THE COMMISSIONER:
 19 Q. - would that be a factor there?
 20 DR. BRUFSKY:
 21 A. That's a good question. There are some
 22 oncologists that would. I am not one of them.
 23 THE COMMISSIONER:
 24 Q. Okay.
 25 DR. BRUFSKY:

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1 A. I think that I would use ten percent as my cut
 2 off. I think that I would use ten percent as
 3 my cut off, I'll leave it at that. I think
 4 that's a good way to say that.
 5 THE COMMISSIONER:
 6 Q. Okay. So for you, make sure I understand, for
 7 you, if you have a patient where there are
 8 some contraindications to hormonal therapy, on
 9 the one side of the scales, there is
 10 positivity, whether it be 11 percent or 50
 11 percent, and then on the other side of the
 12 scales are whatever those things are that
 13 suggest that maybe hormonal therapy may not be
 14 necessarily a good thing for this particular
 15 patient. Where there are other people who,
 16 when they're weighing this, might have the
 17 scales tip a little heavier if it was 50
 18 percent rather than 11 percent?
 19 DR. BRUFISKY:
 20 A. Yes. Some people would use that, yes.
 21 THE COMMISSIONER:
 22 Q. Okay.
 23 DR. BRUFISKY:
 24 A. Some oncologists would use that in making
 25 their decision.

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1 THE COMMISSIONER:
 2 Q. Okay, thank you very much.
 3 DR. BRUFISKY:
 4 A. You're welcome.
 5 THE COMMISSIONER:
 6 Q. Anything else, Ms. Chaytor?
 7 CHAYTOR, Q.C.:
 8 Q. Thank you. No, that's it. Thanks,
 9 Commissioner. Thank you, Dr. Brufsky.
 10 THE COMMISSIONER:
 11 Q. Thank you very much for coming all this way
 12 and assisting us in our task. We very much
 13 appreciate it.
 14 DR. BRUFISKY:
 15 A. Thank you for having me. Thank you very much.
 16 THE COMMISSIONER:
 17 Q. Ms. Chaytor, do we have somebody for this
 18 afternoon?
 19 CHAYTOR, Q.C.:
 20 Q. Commissioner, we're seeing if we can have
 21 another witness come this afternoon, but Mr.
 22 Simmons is going to check and see if that can
 23 happen.
 24 THE COMMISSIONER:
 25 Q. All right.

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1 CHAYTOR, Q.C.:
 2 Q. I don't know -
 3 THE COMMISSIONER:
 4 Q. I'm just thinking in terms of communicating
 5 with others.
 6 CHAYTOR, Q.C.:
 7 Q. Yes.
 8 THE COMMISSIONER:
 9 Q. Can we use our office as a central clearing
 10 house of the information?
 11 MR. SIMMONS:
 12 Q. I can--if I can get on the telephone for a
 13 little while, I may be able to answer the
 14 question of whether someone is available on
 15 short notice or not.
 16 THE COMMISSIONER:
 17 Q. Okay. Well, in that case, I suggest you all
 18 stay around for another five minutes while Mr.
 19 Simmons makes his telephone call. Thank you.
 20 Upon conclusion.

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1 CERTIFICATE
 2 I, Judy Moss, hereby certify that the foregoing is
 3 a true and correct transcript in the matter of the
 4 Commission of Inquiry on Hormone Receptor Testing,
 5 heard on the 6th day of October, A.D., 2008 before
 6 the Honourable Justice Margaret A. Cameron,
 7 Commissioner, at the Commission of Inquiry, St.
 8 John's, Newfoundland and Labrador and was
 9 transcribed by me to the best of my ability by
 10 means of a sound apparatus.
 11 Dated at St. John's, Newfoundland and Labrador
 12 this 6th day of October, A.D., 2008
 13 Judy Moss

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