Multimedia Appendix 4

Codebook for all surveys Includes all branching logic.

#	Variable / Field Name	Field Label Field Note	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)					
Instr	Instrument: Learning Style Survey							
1	record_id	Record ID	text					
2	introduction	The My Cancer Genome team at Vanderbilt-Ingram Cancer Center (VICC) is conducting a study to improve cancer genetics web pages for oncology physicians and nurses. You are invited to participate in this oncology education program and survey about the concepts of sensitivity and resistance to targeted therapies for ER+ breast cancer.	descriptive					
		Here's how it works: Answer a question about your preferred learning format and take a 10-question pre-test. Take a look at the educational materials and answer a few questions. In two weeks, answer a few follow-up questions, and fill out a form to receive your \$100 Amazon.com Gift Card.*						
		Participating will take about 30 minutes. Your participation is totally voluntary and all responses will be confidential. There is very low risk to participating in this survey. You can choose not to answer all of the questions.						
		Thank you so much for participating. If you have questions or comments contact us via email at mialevy.mycancergenome@van derbilt.edu or by phone by calling Christine Micheel, Ph.D. (study coordinator and My						

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		Cancer Genome managing editor), at 615-933-9368.	
		Thank you,	
		Mia Levy, MD, PhD	
		Co-Editor in Chief, My Cancer Genome Assistant Professor of Biomedical Informatics and Medicine Vanderbilt University Medical Center 2220 Pierce Avenue 691 Preston Research Building Nashville, TN 37232-6838	
3	pin_number	What is the PIN number from your invitation email? This 10-character code can be found in your invitation email. It is case sensitive. Please note that entries associated with incorrect PIN numbers will be ineligible for the \$100 Amazon gift card.	text, Required
4	email	What is your email address? Your email is required to complete the study and for your gift card. Your email will not be used for anything other than the study or after completion of the study.	text (email), Required, Identifier
5	consent	I agree to participate in this study.	yesno, Required 1 Yes 0 No Stop actions on 0
6	amazon_disclaimer_1	*Amazon.com is not a sponsor of this promotion. Except as required by law, Amazon.com Gift Cards ("GCs") cannot be transferred for value or redeemed for cash. GCs may be used only for purchases of eligible goods at Amazon.com or certain of its affiliated websites. For complete terms and conditions, see www.amazon.com/gc-legal. GCs are issued by ACI Gift	descriptive

		Cards, Inc., a Washington corporation. All Amazon ®, ™ & © are IP of Amazon.com, Inc. or its affiliates. No expiration date or service fees.	
7	active_practice	Are you actively practicing in an oncology setting?	yesno, Required 1 Yes 0 No
8	goodbye Show the field ONLY if: [active_practice] = '0'	Only individuals actively practicing in an oncology setting are eligible to participate in this study. Thank you for your interest.	descriptive
9	role_description Show the field ONLY if: [active_practice] = '1'	Which of the following best describes you?	radio1Physician2Physician Assistant3Nurse4Genetic Counselor5Allied Health Provider6Other
10	other_role Show the field ONLY if: [role_description] = '6'	Please explain:	text
11	physician_specialty Show the field ONLY if: [role_description] = '1'	Which of the following best describes you?	radio1Resident2Fellow3Medical oncologist and/or hematologist4Surgical oncologist5Radiation oncologist6Pathologist7None of the above
12	md_none_of_the_above Show the field ONLY if: [physician_specialty] = '7'	If you marked none of the above, please explain.	text
13	residency_fellowship Show the field ONLY if: [role_description] = '1'	How many years has it been since you completed residency/fellowship?	radio 1 Less than 5 2 5-9 3 10-15 4 Greater than 15

earning_styles Show the field ONLY if: [active_practice] = '1'	I am likely to remember something a year from now if:		/A Required I learn it by reading I learn it by listening I learn it by watching I learn it by reading and listening I learn it by reading and watching I learn it by listening and
Show the field ONLY if:		100 010 001 110 101	I learn it by reading I learn it by listening I learn it by watching I learn it by reading and listening I learn it by reading and watching
	sometning a year from now in:	010 001 110 101	I learn it by listening I learn it by watching I learn it by reading and listening I learn it by reading and watching
		001 110 101	I learn it by watching I learn it by reading and listening I learn it by reading and watching
		110 101	I learn it by reading and listening I learn it by reading and watching
		101	I learn it by reading and watching
		011	I learn it by listening and
			watching
		111	I learn it by reading, listening, and watching
earning_style_survey_compl	Complete?	dropd	own
ete		0 In	complete
		1 U	nverified
		2 C	omplete
ment: Knowledge Pre-Test			
pretest_rb1	Phosphorylation of RB1	radio,	Required
	facilitates which of the following:	20	Tumor suppression
		21	Inhibition of cell cycle progression
		22	Entry into the S phase of the cell cycle
		23	Formation of a Cyclin D1- CDK4/6 complex
		100	Don't know
pretest acquired definition	Acquired resistance to endocrine	radio.	Required
	therapy in ER+ breast cancer is	1	True
	defined as recurrence at least 6- 12 months after completion of	0	False
	adjuvant therapy or disease	100	Don't know
	endocrine therapy initiated in the metastatic setting.	L	
pretest_primary_definition	Please fill in the blank with the	radio,	Required
	correct answer. Primary	12	12
	in ER+ breast cancer has been	10	10
	defined as disease progression	8	8
	treatment in the metastatic	6	6
	nent: Knowledge Pre-Test pretest_rb1 pretest_acquired_definition	nent: Knowledge Pre-Test pretest_rb1 Phosphorylation of RB1 facilitates which of the following: oretest_acquired_definition Acquired resistance to endocrine therapy in ER+ breast cancer is defined as recurrence at least 6-12 months after completion of adjuvant therapy or disease progression > 6 months after endocrine therapy initiated in the metastatic setting. pretest_primary_definition Please fill in the blank with the correct answer. Primary resistance to endocrine therapy in ER+ breast cancer has been defined as disease progression less than months after	nent: Knowledge Pre-Test Phosphorylation of RB1 facilitates which of the following: radio, 20 nent: Knowledge Pre-Test Phosphorylation of RB1 facilitates which of the following: radio, 20 21 22 23 100 pretest_acquired_definition Acquired resistance to endocrine therapy in ER+ breast cancer is defined as recurrence at least 6-12 months after completion of adjuvant therapy or disease progression > 6 monts after endocrine therapy initiated in the metastatic setting. radio, 100 pretest_primary_definition Please fill in the blank with the correct answer. Primary resistance to endocrine therapy in ER+ breast cancer has been defined as disease progression less than months after treatment in the metastatic radio, 12

			100	Don't know	
19	pretest_estrogen	Estrogen is a steroid hormone	radio, I	Required	
		that controls cell processes like cell division, growth, differentiation, and proliferation.	1	True	
			0	False	
			100	Don't know	
20	pretest_primary_mechanisms	Which of the following is a way	radio, I	Required	
		primary resistance to endocrine therapy in estrogen receptor- positive (ER+) breast cancer	30	Estrogen receptor (ER) amplification	
		may occur?	31	Cyclin D1 amplification	
			32	RB1 amplification	
			300	None of the above	
			100	Don't know	
21	pretest_acquired_mechanism	Which of the following are ways	radio, l	Required	
	S	acquired resistance to endocrine therapy in ER+ breast may occur?	40	Activation of growth factor signaling pathways	
			41	Changes in the tumor microenvironment	
			42	Estrogen receptor mutations	
			200	All of the above	
			100	Don't know	
22	pretest_fda_approved	Which drug combination is	radio, l	radio, Required	
		FDA-approved to treat ER+ metastatic breast cancer resistant	50	Everolimus + exemestane	
		to letrozole or anastrazole?	51	Erlotinib + exemestane	
			52	Palbociclib + exemestane	
			53	Bevacizumab + exemestane	
			100	Don't know	
23	pretest_cdk46_settings	CDK4/6 inhibitors have only	radio, l	Required	
		been evaluated in the first line setting in breast cancer.	1	True	
		setting in orcast cancer.	0	False	
			100	Don't know	
24	pretest_fda_accelerated	The FDA granted accelerated	radio, l	Required	
		approval of which of the following drug combinations for		Palbociclib + letrozole	
		first line or initial endocrine	61	Erlotinib + letrozole	
		therapy in postmenopausal	62	Bevacizumab + letrozole	
		women with ER+/HER2- negative advanced breast cancer?	63	Everolimus + letrozole	

			100 Don't know
25	pretest_palbociclib prelearning_material_review _survey_complete	Palbociclib is in which of the following drug classes? Complete?	radio, Required 70 mTOR inhibitors 71 CDK4/6 inhibitors 72 PI3K inhibitors 73 EGFR inhibitors 100 Don't know dropdown 0 Incomplete
			1 Unverified 2 Complete
Instr	rument: Link to Learning Mate	erials	
27	learning_materials_link	Please click on the link below to view your learning materials: Link to Learning Materials (http://www.mycancergenome.or g/learning-material/? record=[enrollment_arm_1] [record_id]&ls=[enrollment_ar m_1] [learning_styles]&pin=[enrollm ent_arm_1][pin_number]) When you are finished reviewing your learning materials, click the submit button below. You will be taken to a page with a link to the "Post-Learning Material Review Survey." You should also be receiving this link and a link to the next survey by email.	descriptive
28	link_to_learning_materials_c omplete	Complete?	dropdown 0 Incomplete 1 Unverified 2 Complete
Instr	ument: Knowledge Post-Test		
29	posttest_palbociclib	Palbociclib is in which of the	radio, Required

			70	mTOR inhibitors
			71	CDK4/6 inhibitors
			73	EGFR inhibitors
			100	Don't know
30	posttest_cdk46_settings	CDK4/6 inhibitors have only	radio,	Required
		been evaluated in the first line setting in breast cancer.	1	True
			0	False
			100	Don't know
31	posttest_acquired_mechanis	Which of the following are ways	radio,	Required
	ms	acquired resistance to endocrine therapy in ER+ breast may	42	Estrogen receptor mutations
		occur?	40	Activation of growth factor signaling pathways
			41	Changes in the tumor microenvironment
			200	All of the above
			100	Don't know
32	posttest_acquired_definition	Acquired resistance to endocrine	radio,	Required
		therapy in ER+ breast cancer is defined as recurrence at least 6- 12 months after completion of adjuvant therapy or disease progression > 6 months after	1	True
			0	False
			100	Don't know
		endocrine therapy initiated in the metastatic setting.		
33	posttest_fda_approved	Which drug combination is	radio,	Required
		FDA-approved to treat ER+ metastatic breast cancer resistant	53	Bevacizumab + exemestane
		to letrozole or anastrazole?	50	Everolimus + exemestane
			52	Palbociclib + exemestane
			51	Erlotinib + exemestane
			100	Don't know
34	posttest_fda_accelerated	The FDA granted accelerated	radio,	Required
		approval of which of the following drug combinations for	63	Everolimus + letrozole
		first line or initial endocrine	60	Palbociclib + letrozole
		therapy in postmenopausal women with ER+/HER2-	62	Bevacizumab + letrozole
		negative advanced breast	61	Erlotinib + letrozole
		cancer?	100	Don't know
35	posttest_primary_mechanism	Which of the following is a way	radio,	Required
35	s	primary resistance to endocrine	30	Estrogen receptor (ER)

		1			
		therapy in estrogen receptor- positive (ER+) breast cancer may occur?		amplification	
			32	RB1 amplification	
			31	Cyclin D1 amplifi	cation
			300	None of the above	
			100	Don't know	
36	posttest_estrogen	Estrogen is a steroid hormone	radio,	Required	
		that controls cell processes like cell division, growth,	1	True	
		differentiation, and proliferation.	0	False	
			100	Don't know	
37	posttest_primary_definition	Please fill in the blank with the	radio,	Required	
		correct answer. Primary resistance to endocrine therapy	8	8	
		in ER+ breast cancer has been	6	6	
		defined as disease progression less than months after	12	12	
		treatment in the metastatic	10	10	
		setting.	100	Don't know	
38	posttest_rb1	Phosphorylation of RB1	radio	-	
		facilitates which of the following:	20	Tumor suppression	1
		lonowing.	22	Entry into the S ph cycle	ase of the cell
			21	Inhibition of cell c progression	ycle
			23	Formation of a cyc CDK4/6 complex	clin D1-
			100	Don't know	
39	submit_posttest	Fourteen days after you click the submit survey button below you will receive an email with a link to a 5-minute follow-up survey. Upon completion, you will receive your \$100 Amazon.com Gift Card.*	descri	ptive	
		On the next screen, we will ask you for feedback on the learning materials.			
		*Amazon.com is not a sponsor of this promotion. Except as required by law, Amazon.com Gift Cards ("GCs") cannot be transferred for value or redeemed for cash. GCs may be			

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40	postlearning_material_revie w_survey_complete	Complete?	dropdown 0 Incomplete 1 Unverified 2 Complete
Instr	ument: Feedback Survey		
41 42	easy_understanding information_confusing	The information I viewed was easy to understand. Some of the information I viewed was confusing.	radio 1 Strongly disagree 2 Disagree 3 Neither agree or disagree 4 Agree 5 Strongly agree radio 1 Strongly disagree
			 2 Disagree 3 Neither agree or disagree 4 Agree 5 Strongly agree
43	information_satisfaction	I am satisfied with the information I viewed.	radio1Strongly disagree2Disagree3Neither agree or disagree4Agree5Strongly agree
44	information_new	The information I viewed taught me something new.	radio 1 Strongly disagree 2 Disagree

		Γ	
			3 Neither agree or disagree
			4 Agree
			5 Strongly agree
45	information_openended	Do you have any other thoughts on this material that you would like to share with us?	notes
46	feedback_survey_complete	Complete?	dropdown 0 Incomplete 1 Unverified
			2 Complete
Instr	ument: Knowledge Follow-up	Test	
47	followup_fda_approved	Which drug combination is FDA-approved to treat ER+ metastatic breast cancer resistant to letrozole or anastrazole?	radio, Required 51 Erlotinib + exemestane 52 Palbociclib + exemestane 53 Bevacizumab + exemestane 50 Everolimus + exemestane 100 Don't know
48	followup_rb1	Phosphorylation of RB1 facilitates which of the following:	radio, Required22Entry into the S phase of the cell cycle21Inhibition of cell cycle progression23Formation of a Cyclin D1- CDK4/6 complex20Tumor suppression100Don't know
49	followup_palbociclib	Palbociclib is in which of the following drug classes?	radio, Required71CDK4/6 inhibitors73EGFR inhibitors70mTOR inhibitors72PI3K inhibitors100Don't know
50	followup_acquired_mechanis ms	Which of the following are ways acquired resistance to endocrine therapy in ER+ breast may occur?	radio, Required41Changes in the tumor microenvironment42Estrogen receptor mutations

			
			40 Activation of growth factor signaling pathways
			200 All of the above
			100 Don't know
51	followup_estrogen	Estrogen is a steroid hormone	radio, Required
		that controls cell processes like	1 True
		cell division, growth, differentiation, and proliferation.	0 False
			100 Don't know
52	followup_fda_accelerated	The FDA granted accelerated	radio, Required
	i — —	approval of which of the	63 Everolimus + letrozole
		following drug combinations for first line or initial endocrine	62 Bevacizumab + letrozole
		therapy in postmenopausal women with ER+/HER2-	61 Erlotinib + letrozole
		negative advanced breast	60 Palbociclib + letrozole
		cancer?	100 Don't know
53	followup_primary_definition	Please fill in the blank with the	radio, Required
		correct answer. Primary	10 10
		resistance to endocrine therapy in ER+ breast cancer has been defined as disease progression less than months after treatment in the metastatic	8 8
			6 6
			12 12
		setting.	100 Don't know
54	followup_primary_mechanis	Which of the following is a way	radio, Required
	ms	primary resistance to endocrine therapy in estrogen receptor-	32 RB1 amplification
		positive (ER+) breast cancer may occur?	30 Estrogen receptor (ER) amplification
			31 Cyclin D1 amplification
			300 None of the above
			100 Don't know
55	followup_cdk46_settings	CDK4/6 inhibitors have only	radio, Required
		been evaluated in the first line setting in breast cancer.	1 True
		setting in breast cullect.	0 False
			100 Don't know
56	followup_acquired_definitio	Acquired resistance to endocrine	radio, Required
	n	therapy in ER+ breast cancer is defined as recurrence at least 6-	1 True
		12 months after completion of	0 False
		adjuvant therapy or disease progression > 6 months after	100 Don't know
I	l	1. 0	

		endocrine therapy initiated in the metastatic setting.	
57	followup_survey_complete	Complete?	dropdown0Incomplete1Unverified2Complete
Instr	rument: Demographics Survey	7	
58	practice_type	What is your practice type?	radio 1 Academic 3 Community 4 Both 5 Other
59	other_practicetype Show the field ONLY if: [practice_type] = '5'	Other	text
60	percentage_breastpatients	What is the percentage of patients seen with breast cancer in your practice?	radio 1 Less than 25% 2 25%-50% 3 Greater than 50% 4 Unknown
61	age_years	What is your age (years)?	text (integer, Min: 18, Max: 120)
62	gender	What is your gender?	radio 1 Male 2 Female 3 Prefer not to say
63	ethnicity	Ethnicity:	radio 1 Hispanic or Latino 2 Non-Hispanic 3 Prefer not to say
64	race	Race: Check all that apply.	checkbox 1 ethnicity1 3 ethnicity3 Black or African American
			4 ethnicity4 Native Hawaiian or Other Pacific

I		[
					Islander
			5	ethnicity5	Asian
			6	ethnicity6	American Indian or Alaska Native
			97	ethnicity97	Other
			99	ethnicity99	Unknown
			98	ethnicity98	Prefer not to say
65	demographics_survey_compl ete	Complete?	0	down Incomplete Unverified Complete	
Instru	ument: Amazon Gift Card Su	rvey			
66	send_my_gift_card	I want to receive the \$100 Amazon Gift Card.	1	o, Required Yes No	
67	vanderbilt_employee Show the field ONLY if: [send_my_gift_card] = '1'	Are you a Vanderbilt University or Vanderbilt University Medical Center employee (faculty, staff, or other)?	yesno, Required 1 Yes 0 No		
68	ssn Show the field ONLY if: [vanderbilt_employee] = '1'	Please provide your social security number.	text, Required, Identifier		
69	vu_finance Show the field ONLY if: [send_my_gift_card] = '1'	The Vanderbilt University Finance Department requires us to collect your name and address to issue your gift card. Your information will not be used for anything other than to send the gift card, and it will not be used after completion of the study.	descriptive		
70	first_name Show the field ONLY if: [send_my_gift_card] = '1'	First Name	text, Required, Identifier		
71	middle_initial Show the field ONLY if: [send_my_gift_card] = '1'	Middle Initial	text,	Identifier	
72	last_name Show the field ONLY if: [send_my_gift_card] = '1'	Last Name	text,	Required, Identifier	
73	address_1	Address Line 1	text,	Required, Identifier	•

	Show the field ONLY if: [send_my_gift_card] = '1'				
74	address_2 Show the field ONLY if: [send_my_gift_card] = '1'	Address Line 2	text,	Identifier	
75	city Show the field ONLY if: [send_my_gift_card] = '1'	City	text,	Required, Identifier	
76	state	State	drop	down, Required	
	Show the field ONLY if: [send_my_gift_card] = '1'		1	Alabama	
			2	Alaska	
			3	American Samoa	
			4	Arizona	
			5	Arkansas	
			6	California	
			7	Colorado	
			8	Connecticut	
			9	Delaware	
			10	District of Columbia	
			11	Florida	
			12	Georgia	
			13	Guam	
			14	Hawaii	
			15	Idaho	
			16	Illinois	
			17	Indiana	
			18	Iowa	
			19	Kansas	
			20	Kentucky	
			21	Louisiana	
			22	Maine	
			23	Maryland	
			24	Massachusetts	
			25	Michigan	
			26	Minnesota	
			27	Mississippi	
			28	Missouri	

			29	Montana
			30	Nebraska
			31	Nevada
			32	New Hampshire
			33	New Jersey
			34	New Mexico
			35	New York
			36	North Carolina
			37	North Dakota
			38	Northern Marianas Islands
			39	Ohio
			40	Oklahoma
			41	Oregon
			42	Pennsylvania
			43	Puerto Rico
			44	Rhode Island
			45	South Carolina
			46	South Dakota
			47	Tennessee
			48	Texas
			49	Utah
			50	Vermont
			51	Virginia
			52	Virgin Islands
			53	Washington
			54	West Virginia
			55	Wisconsin
			56	Wyoming
77	zip Show the field ONLY if: [send_my_gift_card] = '1'	ZIP Code	text,	Identifier
78	md_nonphysician Show the field ONLY if: [send_my_gift_card] = '1' and ([enrollment_arm_1] [role_description] = '2' or [enrollment_arm_1]	I have an M.D. or equivalent degree (e.g., D.O., M.B.B.S)	yesno, Required 1 Yes 0 No	

	<pre>[role_description] = '3' or [enrollment_arm_1] [role_description] = '4' or [enrollment_arm_1] [role_description] = '5' or [enrollment_arm_1] [role_description] = '6')</pre>		
79	country Show the field ONLY if: [send_my_gift_card] = '1' and ([enrollment_arm_1] [role_description] = '1' or [md_nonphysician] = '1')	Are you legally authorized to practice medicine in the United States?	yesno, Required 1 Yes 0 No
80	sunshine_act Show the field ONLY if: [country] = '1' AND [send_my_gift_card] = '1' AND ([enrollment_arm_1] [role_description] = '1' or [md_nonphysician] = '1')	Because this study is funded by Pfizer, we are required to collect information from physicians to fulfill the Sunshine Act reporting requirements to send out the Amazon gift cards. Please fill out the information below to receive your card. Your information will not be used for anything other than to send the gift card, and it will not be used after completion of the study.	descriptive
81	credential Show the field ONLY if: [country] = '1' and ([enrollment_arm_1] [role_description] = '1' or [md_nonphysician] = '1')	Credential	radio, Required 1 M.D. 2 D.O. 3 M.B.B.S. 4 Other
82	other_credential Show the field ONLY if: [credential] = '4'	If you selected other, please explain:	text, Required
83	npi_id Show the field ONLY if: [country] = '1' and ([enrollment_arm_1] [role_description] = '1' or [md_nonphysician] = '1')	NPI ID Please note that we will not be able to send out the \$100 Amazon gift card without your NPI ID. If you do not remember your NPI ID, please look it up using this link: NPI Registry Search	text (integer), Required, Identifier
84	amazon_disclaimer_2	*Amazon.com is not a sponsor of this promotion. Except as required by law, Amazon.com Gift Cards ("GCs") cannot be transferred for value or redeemed for cash. GCs may be used only for purchases of eligible goods at Amazon.com	descriptive

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85	amazon_gift_card_complete	Complete?	dropdown0Incomplete1Unverified2Complete