Thank you for your continued participation in the **KidsCanSeq Study** and for taking time to complete this survey.

The purpose of this survey is to understand your opinions regarding the clinical significance of your patient's study results. We will also ask about any clinical actions that you might have taken that were attributable to the study results.

[PRG: IF GL+ or GL NSF Matched Results]:

This survey is specifically asking about your patient's **GERMLINE (BLOOD)** testing results.

A link to your patient's report(s) is provided. As a reminder, the GERMLINE tests that are performed for KidsCanSeq study patients are:

1. Pediatric Solid Tumor Mutation Panel

2. Whole Exome Sequencing

This survey should take about 5 minutes to complete. Thanks again for your participation.

[PRG: IF T+ Results]:

This survey is specifically asking about your patient's TUMOR testing results.

A link to your patient's report(s) is provided. As a reminder, the TUMOR tests that are performed for KidsCanSeq study patients (if tumor sample is sufficient) are:

1. Pediatric Solid Tumor Comprehensive Panel (mutation panel, fusion panel)

2. Cancer Genome Profile (exome sequencing, RNA sequencing, and copy number array)

This survey should take about 5 minutes to complete. Thanks again for your participation.

[PRG: do not show question numbers or letter labels (“a.”) in survey]

[PRG: this survey is sent to physicians when their patient has received either their tumor (if applicable) AND germline results. For T+ results, send survey 1 month after T+ results have all been entered. For GL results, send survey 1 month after disc date or letter send date. GL and T surveys sent separately.]

The survey is about your patient [PRG: patient’s name].

Have you had a medical encounter with your patient since you received their genomic testing results?

- Yes
- No

[PRG: Only show questions T1-T8 for physicians whose patient received a positive Tier 1 or Tier 2 tumor finding]

[PRG: Please show at the top of each page for questions T1-T8] **TUMOR SEQUENCING RESULTS**

The following questions are about [PRG: patient’s name]’s positive tumor finding(s), defined as Tier 1 or Tier 2 somatic mutations as per AMP/ASCO/CAP guidelines.
Please refer to your patient’s tumor sequencing report(s) here: [PRG: link to this patient’s tumor sequencing reports].

T1. Did these tumor sequencing results provide information relevant to:

☐ **The diagnosis of your patient’s tumor?**
[PRG: If selected]
Based on study sequencing results, the tumor diagnosis was:

- Unchanged
- Changed

[PRG: If “Changed” selected, show following]
a. What mutation(s) prompted the change in tumor diagnosis? [PRG: Free text]

b. What was the new diagnosis after study testing? [PRG: Free text]

☐ **The prognosis of your patient’s tumor?**
[PRG: If selected]
a. Based on study sequencing results, the tumor prognosis was:

- Better than previously known
- Worse than previously known

b. What mutation(s) prompted the change in tumor prognosis? [PRG: Free text]

□ **Any treatment decisions or other medical interventions for your patient?** [PRG: If don't select 3rd option ("Any treatment decisions…"), skip to T4; T2 and T3 only show if this option is selected]

T2. Do you consider any of the tumor alterations identified in your patient to be targetable by a therapeutic agent that is either FDA-approved or in clinical trials (example: a *BRAF* V600E mutation that is targetable with vemurafenib)?

- ○ Yes
- ○ No [PRG: if select No, then skip to T3.]

a. What identified mutation(s) do you consider targetable? [PRG: Free text]

b. Did you recommend treatment with a targeted agent because of the study results?

- ○ Yes
- ○ No [PRG: if select No, then skip to T3.]

c. Was your patient treated with a targeted agent because of the study results?

- ○ Yes
- ○ No [PRG: if select No, then skip to T2f.]

d. What targeted agent did your patient receive? [PRG: Free text]

e. How did your patient receive this targeted agent?

- ○ Enrollment onto a clinical trial
- ○ Use of an FDA-approved targeted agent
- ○ Compassionate use of a non-approved (investigational) agent
- ○ Other (Please specify) [PRG: Free text]

[PRG: if answer T2e, then skip to T3]

f. Why was your patient not treated with a targeted agent? Please select all that apply.

- □ Agent (or formulation) not available
- □ No clinical trial available or patient not eligible for clinical trial
- □ Family preference
- □ Cost of the agent
- □ Progressive disease
- □ Other (Please specify) [PRG: Free text]

T3. Did you recommend any other tumor-directed therapies for your patient because of the study results?

- ○ Yes

- ○ No [PRG: if select No, then skip to T4.]

a. What type of recommendation was made? Please select all that apply.

- □ Start a new medication (please specify) [PRG: Free text]
- □ Stop a current medication (please specify) [PRG: Free text]
- □ Enrollment on a clinical trial (please specify) [PRG: Free text]
- □ Consideration of tumor surgery
- □ Consideration of radiation therapy
- □ Other (Please specify) [PRG: Free text]

b. What mutation(s) prompted these recommendation(s)? [PRG: Free text]

On a scale of 1 to 10, how useful do you think the Tumor sequencing results…

	Not at all Useful (1)	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Extremely Useful (10)**
T4. Are for managing this patient's care now?	○	○	○	○	○	○	○	○	○	○
T5. Will be for managing this patient's care in the future?	○	○	○	○	○	○	○	○	○	○

For the next questions, on a scale of 1 to 10, how likely are you to order a Tumor sequencing test in the future for a similar patient if…

	Not at all Likely (1)	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Extremely Likely (10)**
T6. The patient is NOT enrolled on a research study?	○	○	○	○	○	○	○	○	○	○
T7. The patient is NOT enrolled on a research study and the test is NOT covered by their insurance?	○	○	○	○	○	○	○	○	○	○

T8. The patient is NOT enrolled on a research study and the test IS covered by their insurance?	○	○	○	○	○	○	○	○	○	○

You have reached the end of the survey for this patient's tumor results. If you are done, please click on the submit button below. If you need to review or change any answers, click on the previous button to go back.

[PRG: After Survey Submitted]: Thank you for participating in the KidsCanSeq Study and completing this survey!

[PRG: Show questions G1-G13 for physicians whose patient received a positive germline finding (does not include VUS) OR if selected for non-significant genetic finding (matched on the oncologist).]

[PRG: Please show at the top of each page for questions G1-G13] **GERMLINE GENETIC SEQUENCING RESULTS**

[PRG: if positive results returned]
The following questions are about [PRG: patient's name]'s germline testing, which did detect a diagnostic or secondary germline mutation.

OR

[PRG: if negative results returned]
The following questions are about [PRG: patient's name]'s germline testing, which did NOT detect a diagnostic or secondary germline mutation.

Please refer to your patient's germline sequencing report(s) here: [PRG: link to this patient's germline sequencing reports].

Based on your patient's GERMLINE GENETIC TEST results, please answer the following questions related to potential genetic diagnoses (including results about your patient's cancer and any other conditions). These questions have been standardized for the purposes of the CSER research consortium and are being asked at each project site for both positive and a sample of negative germline results.

G1. Based on the information you have now (post study genetic test results), how confident are you that you have identified the primary causal etiology of the patient's condition (cancer)?

- 0, Not at all
- 1
- 2
- 3
- 4
- 5
- 6, Completely

G2. What do you think is the chance that the patient has a genetic condition (either cancer or something else)?

- 0, Definitely not genetic
- 1
- 2
- 3

- 4
- 5
- 6, Definitely genetic

G3. Were you able to articulate a clear next step to establish a diagnosis based on the germline genetic test results?

- Yes
- No

G4. Were you able to give the patient a clear recommendation for management of symptoms based on germline genetic test results?

- Yes
- No

[PRG: G5 to appear on a NEW PAGE]

The next set of questions are about actions recommended after receiving the germline results of genetic testing associated with participation in the research study.

G5. Which of the following did you order or recommend for the participant related to any findings from the germline reports? (*Check all that apply*)

- □ **I didn't order or recommend any of the following** [PRG: If selected make checkboxes below un-selectable]
- □ **A cytogenetic test**
  [PRG: If selected display following]
  (Check all that apply)
  - □ Karyotype only
  - □ Karyotype and microarray
  - □ Microarray only
  - □ Other (Please specify*:* [PRG: Free Text])
- □ **An additional molecular genetic test**
  [PRG: If selected display following]
  (Check all that apply)
  - □ Single gene test or small panel test (<10 genes)
  - □ Large panel test (<10 genes)
  - □ Large panel test (>10 genes)
  - □ Exome sequencing
  - □ Mitochondrial DNA testing
  - □ Other (Please specify*:* [PRG: Free Text])
- □ **Other types of laboratory testing**
  [PRG: If selected display following]
  (Check all that apply)
  - □ A metabolic lab test
    [PRG: If selected display following]
    (Check all that apply)

- □ Plasma amino acids
- □ Urine organic acids
- □ Acylcarnitine panel
- □ Lactate
- □ Ammonia
- □ Metabolomic panel
- □ Transferrin isoelectric focusing
- □ Guanidinoacetate
- □ Other (Please specify: [PRG: Free Text])

□ Endocrine

[PRG: If selected display following]

(Check all that apply)

- □ Thyroid
- □ Diabetes related
- □ Adrenal axis
- □ Other (Please specify: [PRG: Free Text])

□ Lipids

[PRG: If selected display following]

(Check all that apply)

- □ Cholesterol panel
- □ Other (Please specify: [PRG: Free Text])

□ Chromosome stability

[PRG: If selected display following]

(Check all that apply)

- □ DEB breakage
- □ Telomere length
- □ Radiation sensitivity
- □ Other (Please specify: [PRG: Free Text])

□ Other (Please specify: [PRG: Free Text])

□ **An imaging test**

[PRG: If selected display following]

(Check all that apply)

- □ MRI (Please specify body site(s) and with/without contrast (if known)): [PRG: Free Text])
- □ CT (Please specify body site(s) and with/without contrast (if known)): [PRG: Free Text])
- □ Heart ultrasound/ echocardiography (Please specify: [PRG: Free Text])
- □ Ultrasound of other body parts (Please specify: [PRG: Free Text])
- □ Plain films (Please specify: [PRG: Free Text])

Will anesthesia be required for any of the above?

- ○ Yes
- ○ No

Was the imaging test ordered?

- ○ One time only
- ○ Recurring

□ **A procedure to obtain a tissue sample for additional testing**
[PRG: If selected display following]
(Check all that apply)
□ Muscle biopsy
□ Lumbar puncture
□ Skin biopsy
□ Other (Please specify: [PRG: Free Text])

Will anesthesia be required for any of the above?
○ Yes
○ No

□ **Prophylactic Surgery to reduce disease risk**
[PRG: If selected display following]

Please specify: [PRG: Free Text])

□ **Non-invasive electrophysiology**
[PRG: If selected display following]
(Check all that apply)
□ EKG
□ EEG
□ Other (Please specify: [PRG: Free Text])

□ **Invasive electrophysiology**
[PRG: If selected display following]
(Check all that apply)
□ EMG
□ Nerve conduction
□ Other (Please specify: [PRG: Free Text])

□ **Referral to another medical specialty for evaluation or management**
[PRG: If selected display following]
(Check all that apply)
□ Cardiology
□ Neurology
□ Genetics and Metabolism
□ Ophthalmology
□ Nephrology
□ Dermatology
□ Nephrology
□ Dermatology
□ Pulmonology
□ Immunology/ Allergy
□ Rheumatology
□ Hematology
□ Oncology

- □ Psychiatry
- □ Other (Please specify: [PRG: Free Text])

□ **Referral to a non-MD health professional**
[PRG: If selected display following]
(Check all that apply)
- □ Audiology
- □ Dental
- □ Genetic counselor
- □ Psychologist
- □ Other (Please specify: [PRG: Free Text])

□ **Referral to mental health support**
[PRG: If selected display following]
(Check all that apply)
- □ Mental health
- □ Social support
- □ Palliative care
- □ Other (Please specify: [PRG: Free Text])

□ **Referral for therapeutic services**
[PRG: If selected display following]
(Check all that apply)
- □ Speech therapy
- □ Occupational therapy
- □ Physical therapy
- □ Other (Please specify: [PRG: Free Text])

□ **Other changes to management**
[PRG: If selected display following]
(Check all that apply)
- □ Recommended a new medication (Please specify: [PRG: Free Text])
- □ Recommended a change of dose of an existing medication (Please specify: [PRG: Free Text])
- □ Recommended discontinuation of an existing medication (Please specify: [PRG: Free Text])
- □ Changes to over the counter (OTC) medicines or supplements (Please specify: [PRG: Free Text])
- □ Medical/metabolic diet (Please specify: [PRG: Free Text])
- □ General dietary recommendations (Please specify: [PRG: Free Text])
- □ Recommended change in exercise or level of activity (Please specify: [PRG: Free Text])
- □ Other types of lifestyle changes (Please specify: [PRG: Free Text])
- □ Any other recommendations not covered above (Please specify: [PRG: Free Text])

As part of the study, these results were returned/reviewed with the family by KidsCanSeq study genetic counselors or geneticists, or in the case of non-significant results were returned via letter. We are also interested in learning

whether you also discussed your patient's germline results with their family or took any action based on those results.

G6. Did you discuss the implications of any result for the patient's family members (for example siblings or parents of your patient)?

- Yes
- No [PRG: if select No, then skip to G7.]

a. For which result(s) did you discuss implications for family members? [PRG: Free text]

b. What implications for family members did you discuss? [PRG: Free text]

G7. Did you recommend genetics referral for any of the patient's family members?

- Yes
- No [PRG: if select No, then skip to G8.]

a. For which result(s) did you recommend referral? [PRG: Free text]

b. For which family members did you recommend referral? [PRG: Free text]

G8. Did you recommend genetic testing for any of the patient's family members?

- Yes
- No [PRG: if select No, then skip to G9.]

a. For which result(s) did you recommend testing of family members? [PRG: Free text]

b. Which family members did you recommend get tested? [PRG: Free text]

On a scale of 1 to 10, how useful do you think the Germline sequencing results…

	Not at all Useful (1)	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Extremely Useful (10)**
G9. Are for managing this patient's care now?	○	○	○	○	○	○	○	○	○	○

G10. Will be for managing this patient's care in the future?	○	○	○	○	○	○	○	○	○	○

On a scale of 1 to 10, how likely are you to order a Germline sequencing test in the future for a similar patient if…

	Not at all Likely (1)	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Extremely Likely (10)**
G11. The patient is NOT enrolled on a research study?	○	○	○	○	○	○	○	○	○	○
G12. The patient is NOT enrolled on a research study and the test is NOT covered by their insurance?	○	○	○	○	○	○	○	○	○	○
G13. The patient is NOT enrolled on a research study and the test IS covered by their insurance?	○	○	○	○	○	○	○	○	○	○

You have reached the end of the survey. Please click the SUBMIT button below if you are happy with your answers. If you need to review or change any answers, click on the PREVIOUS button to go back.

[PRG: After Survey Submitted]: Thank you for participating in the KidsCanSeq Study and completing this survey!