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Physician-patient communication about genomic tumor testing: perceptions of oncology providers

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Background

- Genomic tumor testing (GTT) is a new technology and a cornerstone of the “precision medicine” movement in cancer care.
- GTT uses next-generation genome sequencing technology to identify somatic variants in tumor cells.
- By identifying somatic variants that predict responses to cancer therapies, GTT can help tailor therapy to individual patients, making them more effective.
- However, due to the fact that GTT also detects many variants of uncertain significance, its clinical value is currently unproven.
- When using GTT, physicians counsel patients about both its benefits and its limitations, but the ideal goals and content of these physician-patient discussions have not been clearly defined.

Objective

Explore providers’ perceptions of the key goals and elements of physician-patient discussions about GTT.

Methods

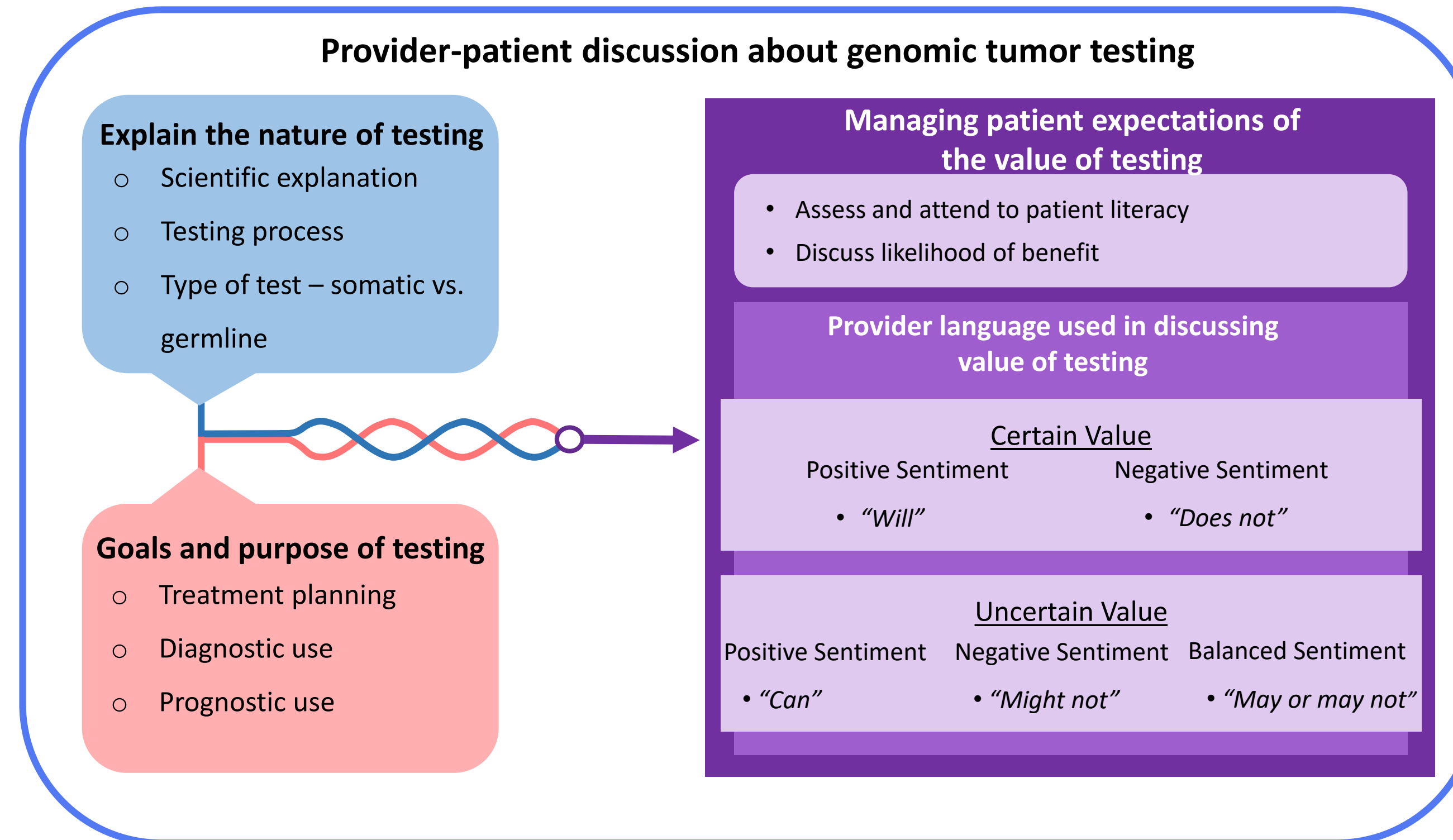
- Qualitative analysis of open-ended responses to questionnaire administered to health professionals participating in the Jackson Laboratory’s Maine Cancer Genomics Initiative (MCGI), a 5-year state-wide research project aimed at disseminating and implementing GTT in community oncology practices throughout the state of Maine.
- In April 2018, 120 physicians and clinical staff attended an annual 2-day MCGI conference, convened by The Jackson Laboratory to educate and update providers on the progress of the initiative.
- Surveys consisted of both multiple-choice and open-ended questions, designed to assess perceptions of the key goals and elements of physician-patient discussions of GTT.

Open-ended question (Key elements)

“Given what you know about GTT, how would you introduce it to a patient? Identify three (3) essential things the patient needs to know.”

- Qualitative thematic analysis of open-ended items, software-assisted coding with MAXQDA™

Results



Illustrative Quotations from Open-Ended Responses		
Nature of GTT		
Scientific explanation	“The reason that cancers that look the same don’t respond the same is because of different genetic changes inside the cancer cell”	
Testing process	“Testing done on tumor tissue removed during surgical procedure”	
Type of test	“Whether the test will focus on tumor or both tumor and germline”	
Goals and Purpose	Certain Value	Uncertain Value
Treatment Planning	“This is a way to utilize precision medicine and offer a more personalized treatment based on cancer genomics and identifying specific genes and mutations associated with patient’s individual cancer”	“We hope the result will help guide future treatment options, however we do not always find mutations that we can take action on or change treatment”
Diagnostic Use	“Different than genetic testing, will classify tumor”	“Real chance that test may not yield any results or may yield results that are vague or non-actionable”
Prognostic Use	“That the test is not perfect and does not determine outcome”	“Impact of information re: treatment/family/prognosis and limitations of what can be learned”
Manage Patient Expectations		
Assess and attend to patient literacy	“Basic knowledge/explanation of germline vs. somatic mutation (assess baseline health literacy)”	
Discuss likelihood of benefit	“Benefits and limitations of the testing and how likely it is to provide information that would lead to a therapeutic change, i.e. manage expectations”	

Participants

Oncology Providers	17
Registered Nurses	14
Genetic Counselors	5
Pathologists	5
Other (e.g. practice administrators, other physicians)	35
Total Participants	76

Conclusions

- Cancer care providers identify three main goals and elements of provider-patient discussions to introduce GTT to patients:
 - Educate patients about the nature of the test including scientific background, aspects of the testing process, and the meaning of somatic vs. germline testing.
 - Convey the goals and purpose of GTT, largely focused on the identifying actionable variants for treatment decision-making.
 - Manage patient expectations regarding the value of GTT.
- Providers describe the goals and purpose of GTT using mixed language that conveys both the value of GTT and uncertainty about its value.

Future Research Directions

- Replicate and assess the generalizability of the findings in a larger, more diverse sample.
- Assess patients’ perceptions of the goals and ideal content of physician-patient discussions of GTT.
- Develop and test patient education and decision support interventions to facilitate informed and shared decision making about GTT.

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