



WILLINGNESS FOR MULTIPLE BIOPSIES TO IMPROVE QUALITY OF LUNG CANCER CARE: *UNDERSTANDING THE PATIENT PERSPECTIVE*

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THE JOURNEY OF A LUNG CANCER PATIENT

Diagnosis

- Chest CT/Imaging
- Biopsy and Molecular Test

Rbx: At the time
of diagnosis

Staging

- EBUS and Bronchoscopy
- Surgery and brain MRI (if needed)

Treatment

- Surgery/Chemo/TTx/Itx
- Clinical trials

Rbx: New targeted
agent approved or in
trials

Monitoring

- Symptoms management
- Surveillance

Rbx: Recurrence

A rebiopsy might be required at different points in the treatment journey

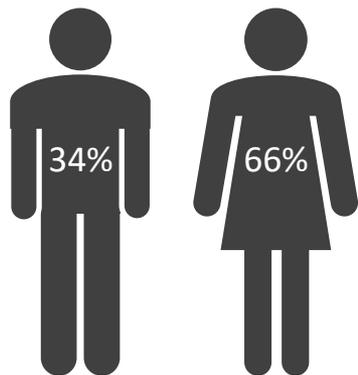
Doctors do not want to re-biopsy lung cancer patients due to:

- Reluctance on the patient's part due to pain during the first biopsy procedure and complications arising after the procedure
- Lack of comprehensive health insurance coverage leading to issues with reimbursement by health insurance companies

What do patients really want?

- Understand patient familiarity and experience with biopsy
- What, if anything, are patients being told by doctors about re-biopsy or biopsy after treatment?
- Under what circumstances are patients willing to undergo additional biopsy or a biopsy after treatment has started?

Online survey among 340 lung cancer patients



Age

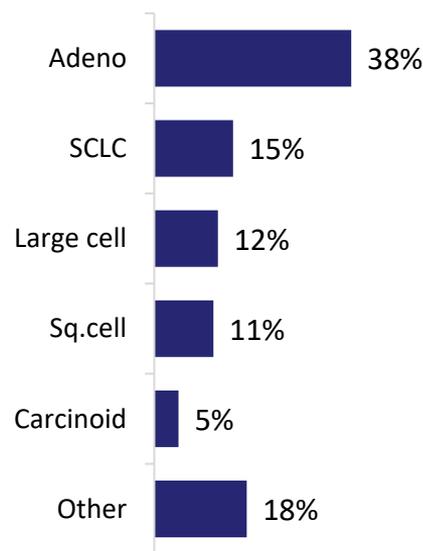
| | |
|-------------|------|
| 18 to 34 | 17% |
| 35 to 44 | 13% |
| 45 to 54 | 16% |
| 55 to 64 | 29% |
| 65 or older | 25% |
| Mean | 52.6 |

Race/Ethnicity

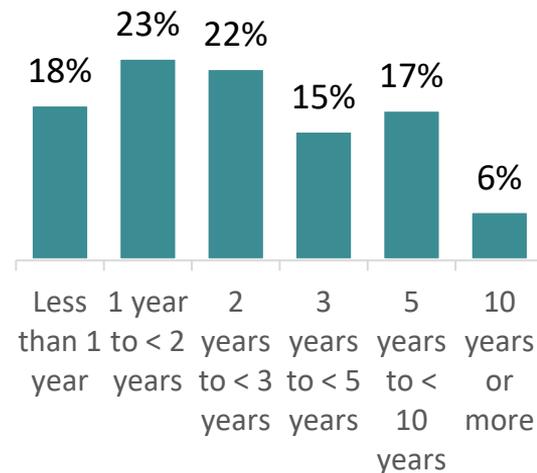
| | |
|-------------------------|-----|
| White/Caucasian | 88% |
| Black/African American | 4% |
| Asian, Pacific Islander | 3% |
| Hispanic | 10% |

Lung cancer statistics

Type of lung cancer



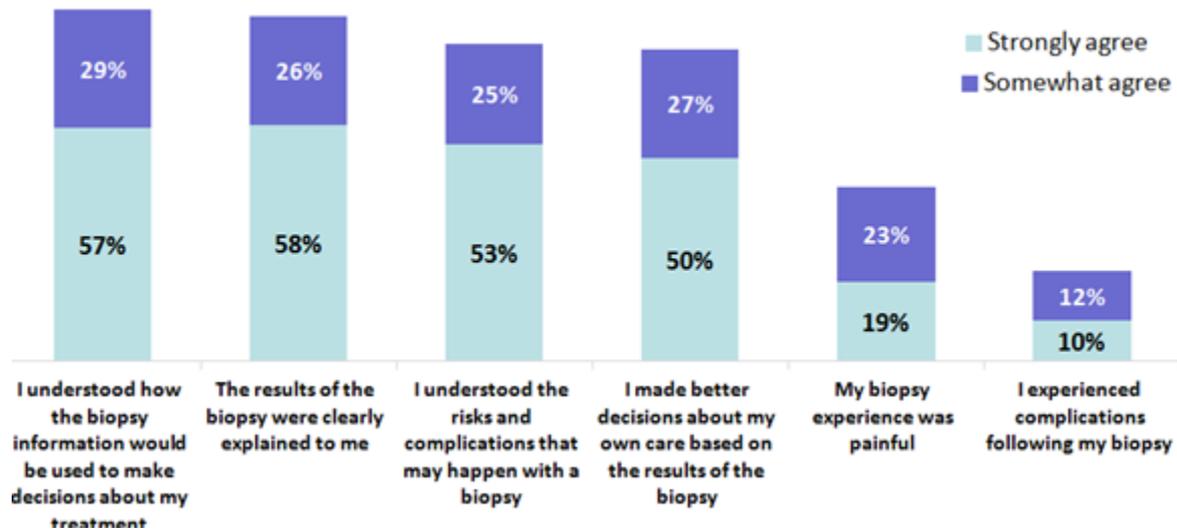
Years Since Diagnosis



How many patients underwent a biopsy at diagnosis? How was their experience?



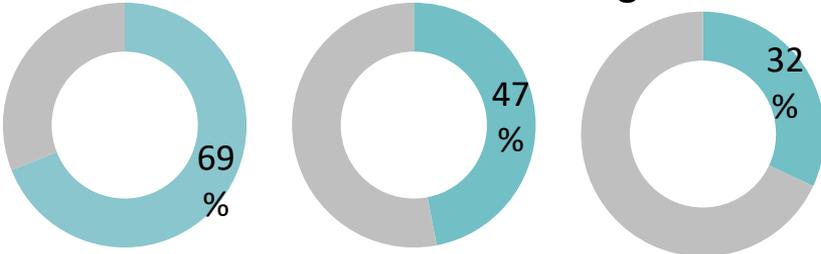
68% of the patients surveyed had undergone a biopsy at the time of diagnosis



Patients report a positive initial biopsy experience.

About 2-in-5 experienced some pain with their biopsy and 1-in-5 experienced complications

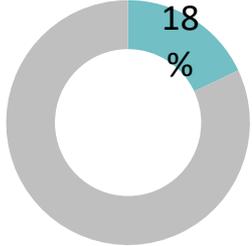
What information did doctors give at the time of biopsy? How did patients perceive the information?



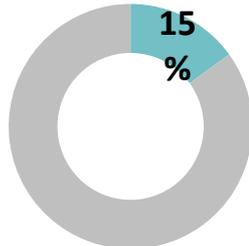
To determine if there was cancer

To determine type of cancer I have

To stage my cancer

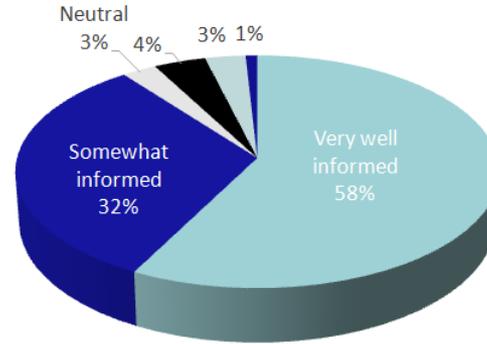


To test my tumor for mutations



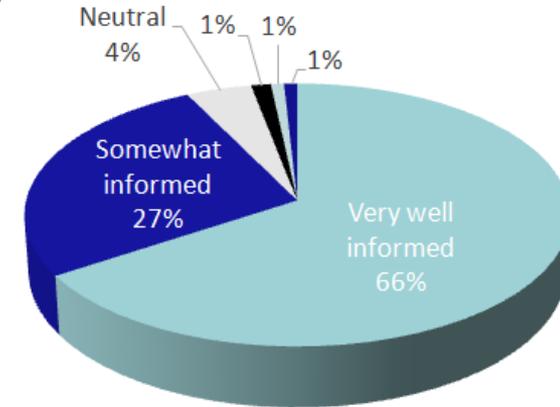
To determine my eligibility for certain treatments

(n=231)

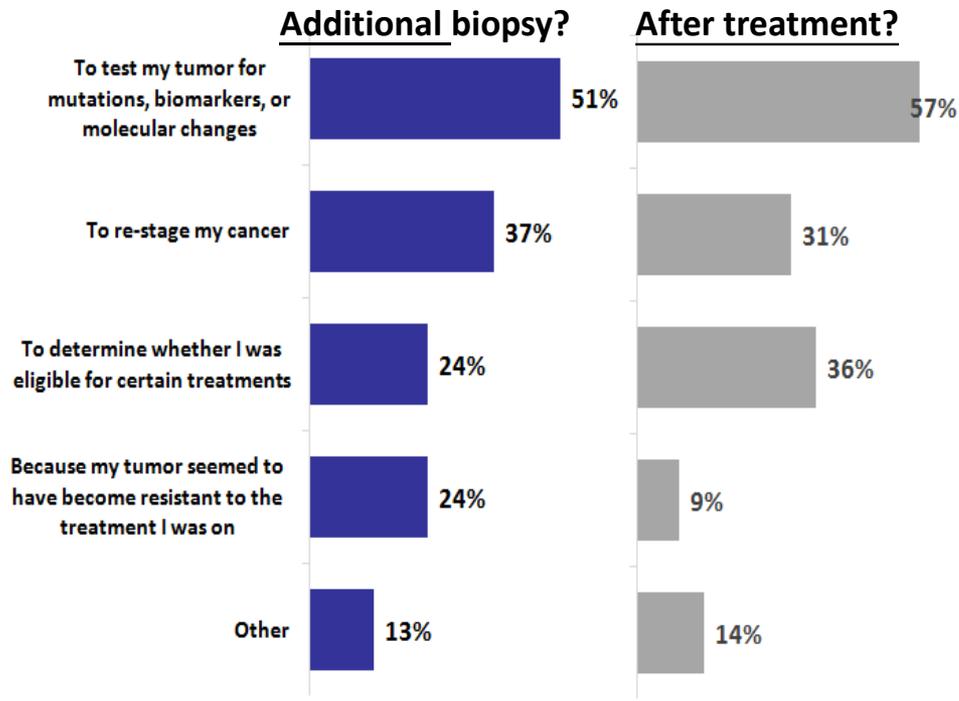
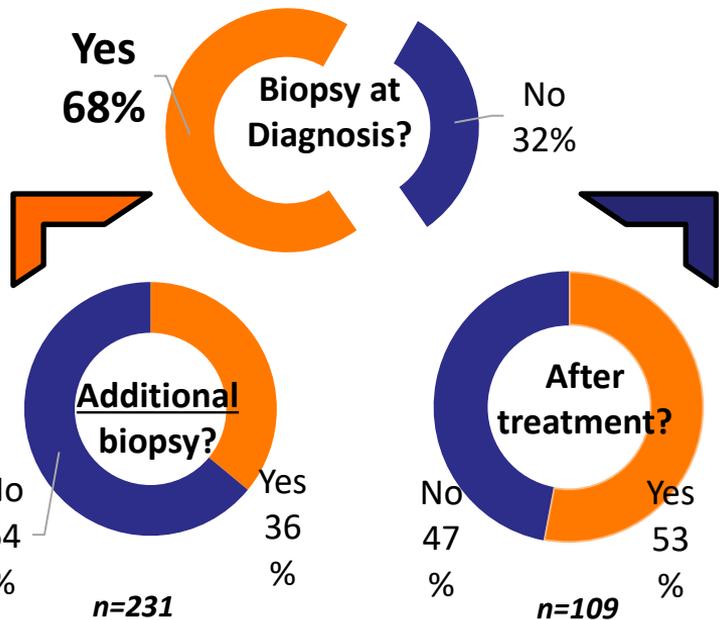


Reasons for biopsy

Meaning of results

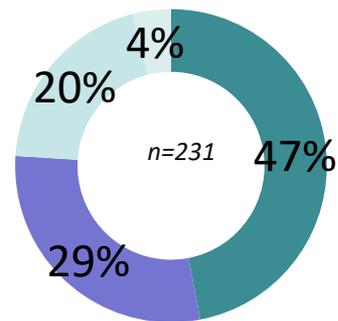


Are doctors recommending rebiopsies? If yes, why are they recommending them?

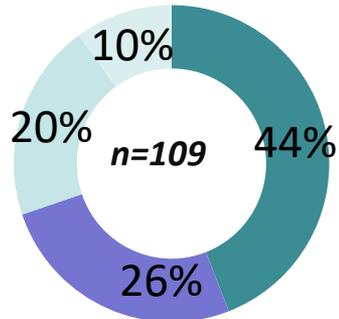


Are patients willing to undergo rebiopsies at this point in their treatment?

Willingness to Have Biopsy at this Point in Treatment

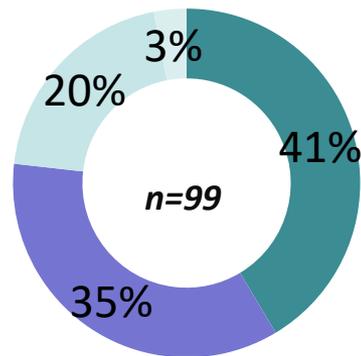


Among those who previously had a biopsy



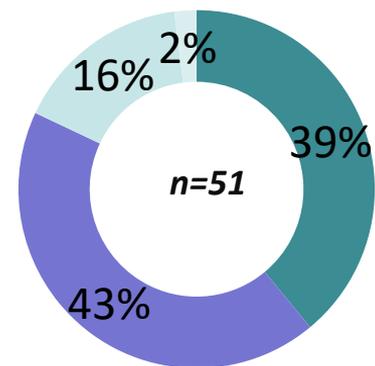
Among those who initially did not have a biopsy

Among the 43% who experienced a painful biopsy:



Even patients who experienced pain or complications are willing to have an additional biopsy.

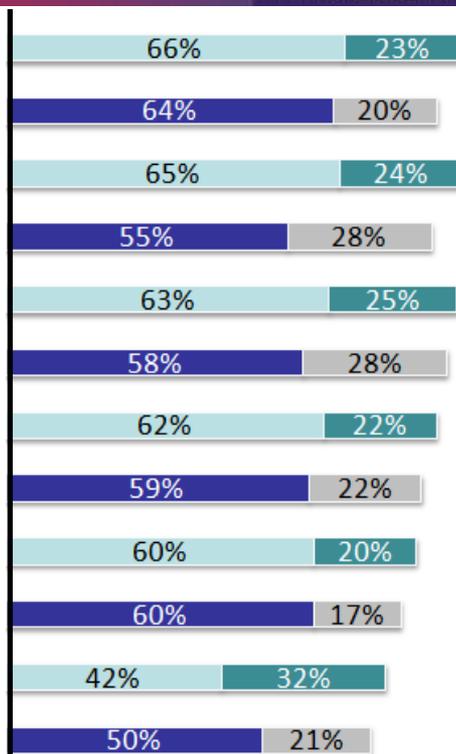
Among the 22% who experienced complications:



■ Yes, definitely
 ■ Yes, probably
 ■ Unsure/might or might not
 ■ Probably/Definitely not

Why are patients willing to undergo rebiopsies?

- Yes definitely/Had Biopsy
- Yes definitely/Never had biopsy
- Yes probably/Had biopsy
- Yes probably/Never had biopsy



Match treatment to specific cancer/personalized care

Tissue sample needed to do molecular testing for targeted therapy

Determine eligibility for oral treatments

Determine eligibility for treatments with fewer side effects

Your cancer is coming back/it has stopped responding to treatment

Enough tissue not retrieved during first biopsy

Why are patients not willing to undergo rebiopsies? What additional questions would they like answered?

TREATMENT-SPECIFIC

"I am currently ALK+, what if my new biopsy did not show ALK. I would have fewer treatment options."

"My Stage III A NSCLC is "stable", in remission, maybe even cured, and there are new effective immune therapies available if it progresses. If a biopsy was necessary for immune therapy, I would definitely give it full consideration."

PROCEDURE-SPECIFIC

The biopsy was done by a surgical procedure which has left scars and was very painful."

"Might be possible to get the results less invasively through a blood test."

PATIENT-SPECIFIC

"Left lung was removed. Cancer has spread to bone and is under treatment with targeted therapy. A biopsy is not medically indicated."

PROCEDURE-SPECIFIC

"What assurance is there that on a 2nd try they will definitely get enough tissue for the desired analyses?"

"Can you show me pictures displaying the size/shape of the cut and how it will effect me?"

BENEFITS-RISK-SPECIFIC

"What would the benefits be of getting a biopsy at this point of my treatment?"

"Why is it being suggested, and what is the predicted outcome of the results?"

TREATMENT-SPECIFIC

"Would the biopsy help determine if immunotherapy is appropriate treatment?"

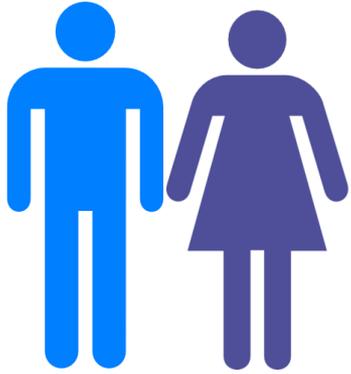
"Could you test for different markers other than EGFR or ALK?"

What lung cancer patients are saying:

- 75% of the survivors would have an additional biopsy
- Survivors are more likely to do so if they know that it would help their health care team better match treatment to their specific cancer and personalize their care than if they were just told that the test was to look for mutations
- Although almost 50% of the survivors reported pain or complications from their initial biopsy, this group indicated equal willingness to have another biopsy as those without any issues

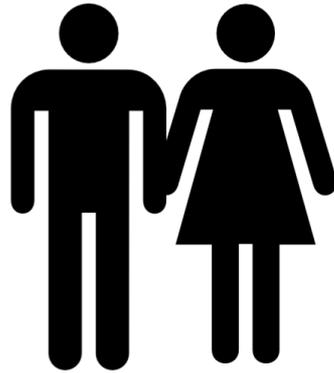
Limitations of the study

- Small sample size
- Younger age sample



Patient

To ask their doctor about new treatments and discuss the need for additional biopsies if necessary. Understanding the end benefit of having the test is an important piece of communication



Advocacy Organizations

To educate patients and physicians about having an open dialogue to help patients become equal partners in their treatment decision-making



Provider

To discuss the benefits-risks of an additional biopsy with their patients and how it may help decide course of treatment



Regulatory

To update diagnosis and treatment decision-making guidelines as we learn more about new drugs that target specific mutations in lung cancer