

A United States study focused on patients' understanding of, attitudes toward, and barriers to the use of biomarker testing for NSCLC

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1. LUNGevity Foundation
2. Association of Community Cancer Centers (ACCC)
3. Patient Advocacy Foundation
4. Edge Research

1 Introduction and purpose

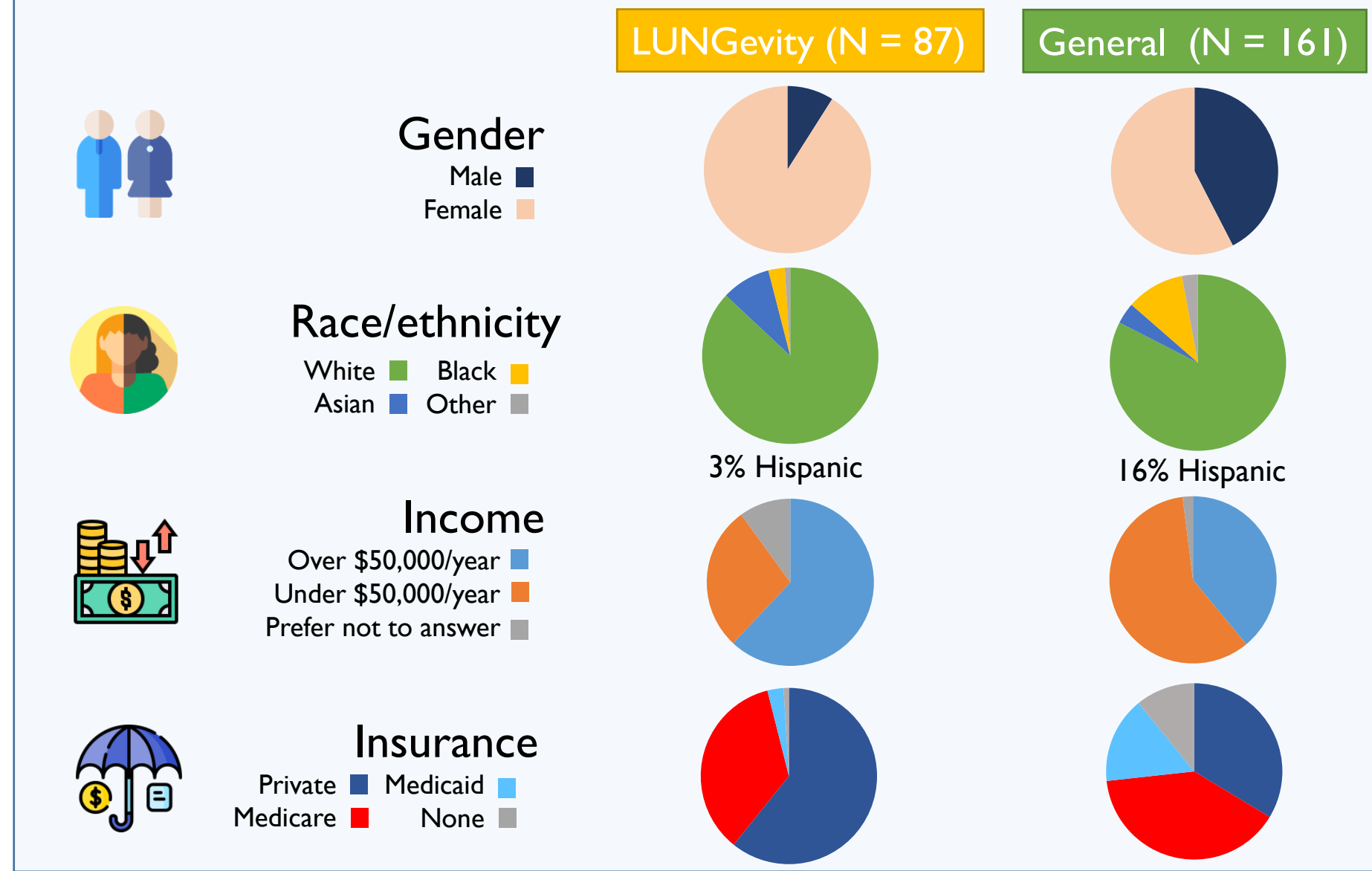
Advances in precision medicine using biomarker testing for determining somatic mutations and protein levels in lung cancer to determine therapy targeted specifically for an individual patient have been attributed to helping to optimize cancer treatment. However, rates for biomarker testing in non-small cell lung cancer (NSCLC), where there are more than 20 approved targeted therapies for 9 different biomarkers, remain suboptimal. Little research outside of the context of genetic counseling for inherited cancer risk has explored patient perceptions of communication toward use of precision medicine and biomarker testing. Fewer studies have taken into account the perspectives of patients themselves.

The purpose of this study was to understand the patient perspective regarding current use, awareness, barriers to access, and educational needs regarding biomarker testing. Additionally, a cohort of patients connected to the LUNGevity Foundation's patient advocacy network was compared to a general patient sample in order to determine specific challenges faced by patients who may not be as connected to advocacy groups.

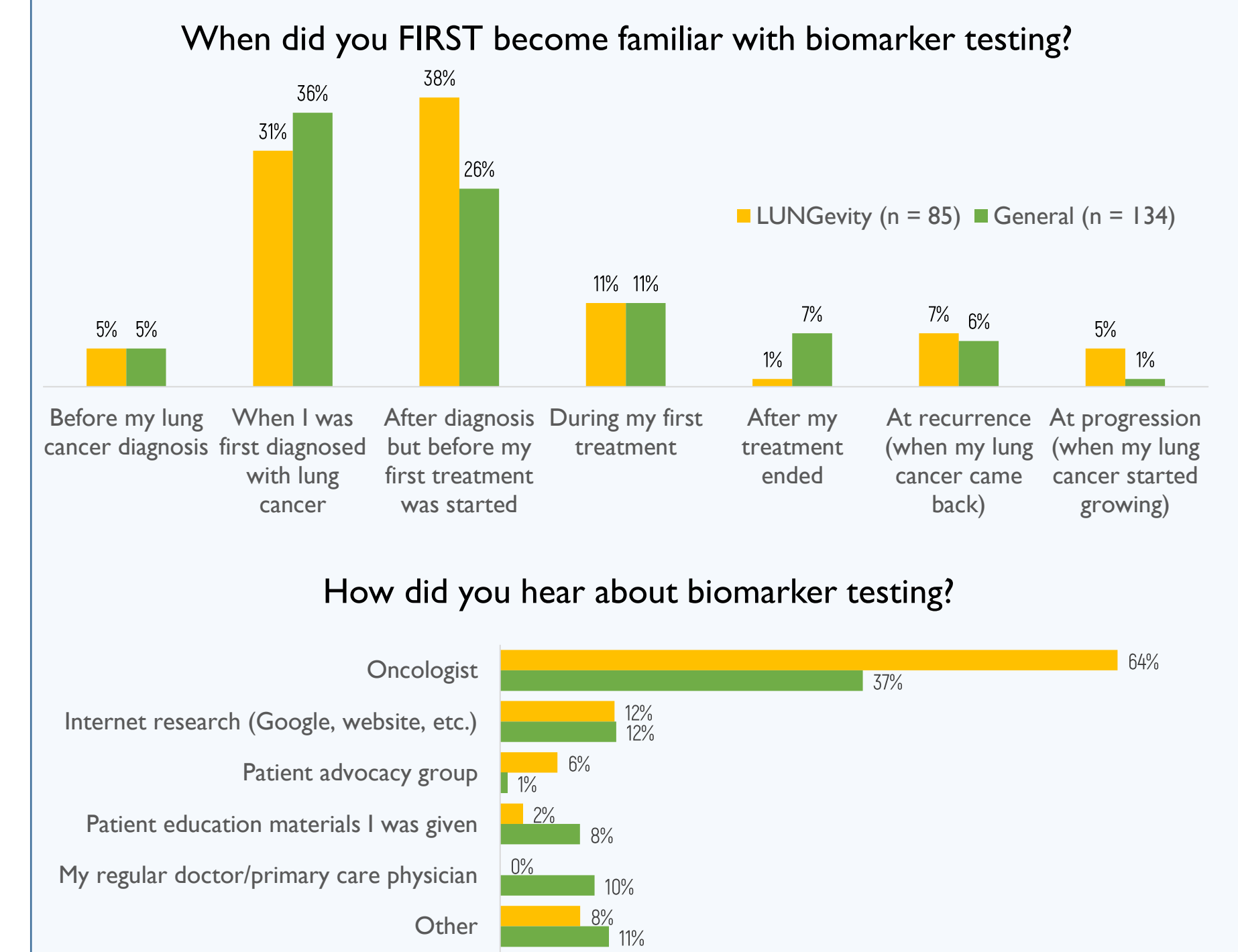
2 Methodology of study

- An online survey was created to understand key patient perceptions in the biomarker testing process, including awareness, prevalence, attitudes, and barriers to access.
- The survey was distributed through two patient advocacy networks (LUNGevity Foundation and Patient Advocate Foundation) and a national research panel to identify patients with NSCLC from April-June 2020.
- Descriptive analyses and subanalyses were used to observe overall trends and compare differences between the LUNGevity patient panel and a general patient sample.
- Six focus groups were conducted from October-November 2020 to better understand the patient experience, confirm survey results, and explore solutions to identified barriers.

3 Significant demographic differences were found in the two cohorts: the general panel included patients more racially diverse, with lower income and on Medicaid/uninsured.

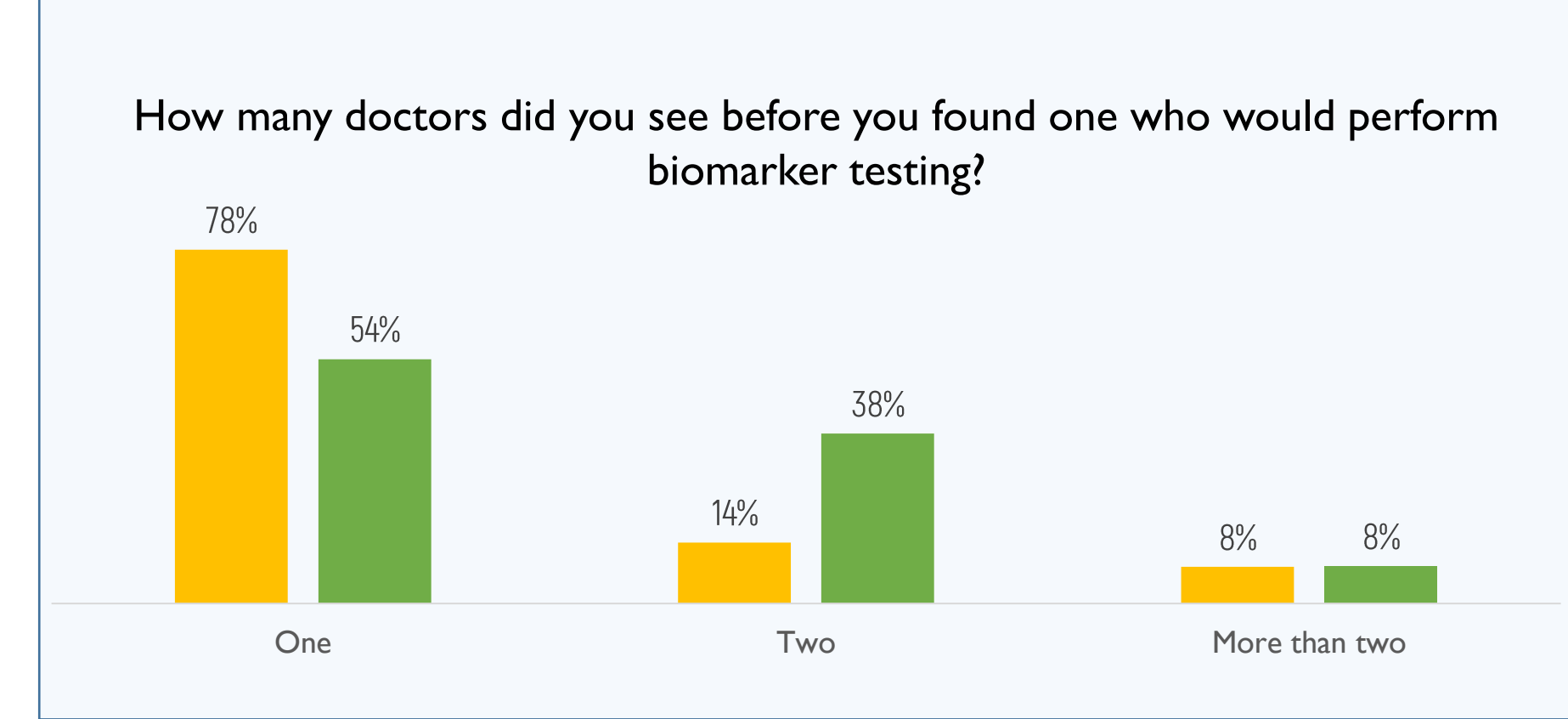


4 Patients who are aware of biomarker testing tend to learn about it before treatment begins, although this is less likely for lower-income patients. Oncologists were the primary source of information for all patients.

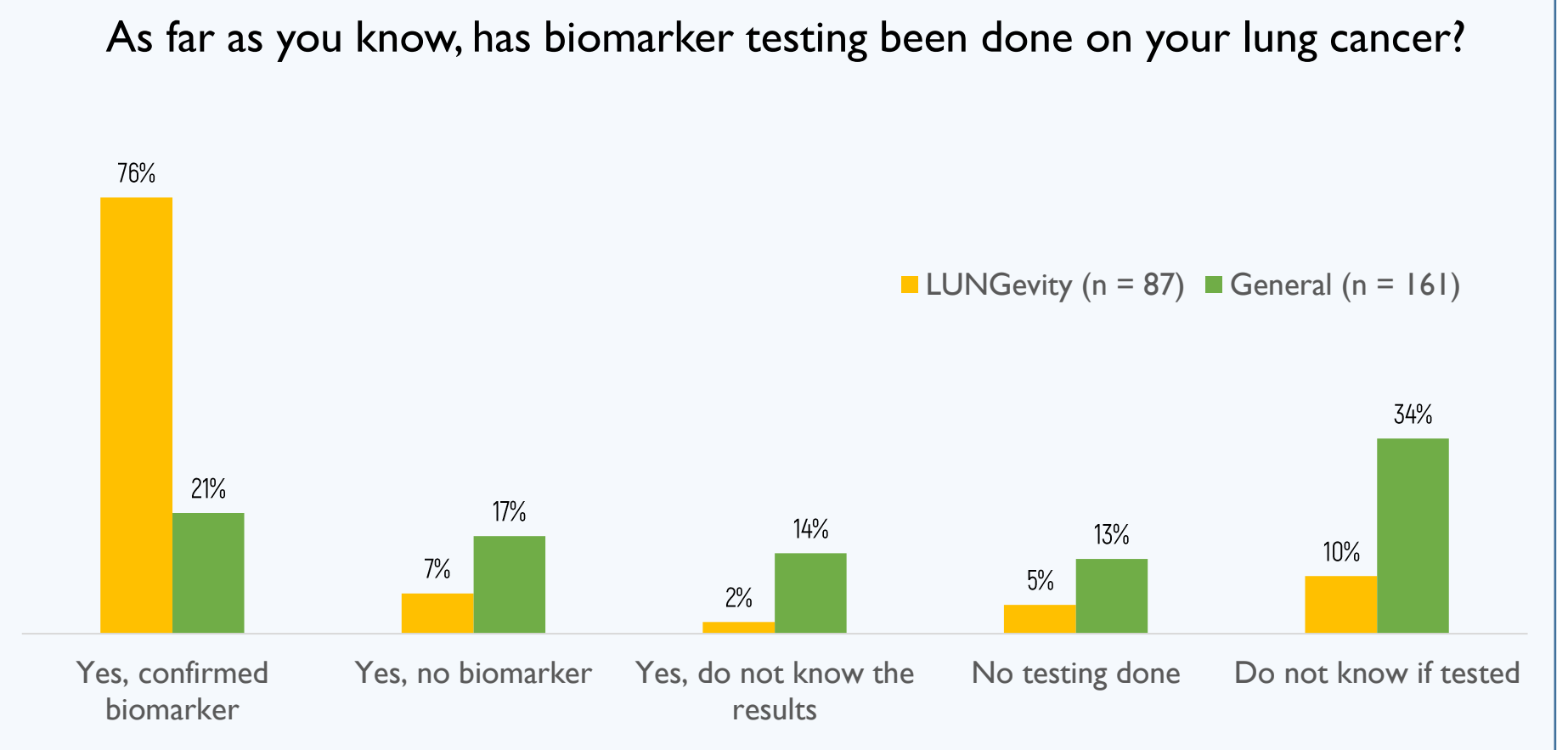


"The oncologist said I think we should do this, and he was the guy running the show and I was happy with him and the cancer center and trusted him explicitly." – Patient in Rural Area/Small Town

5 Patients in the general cohort were more likely to request testing from 2 or more doctors.

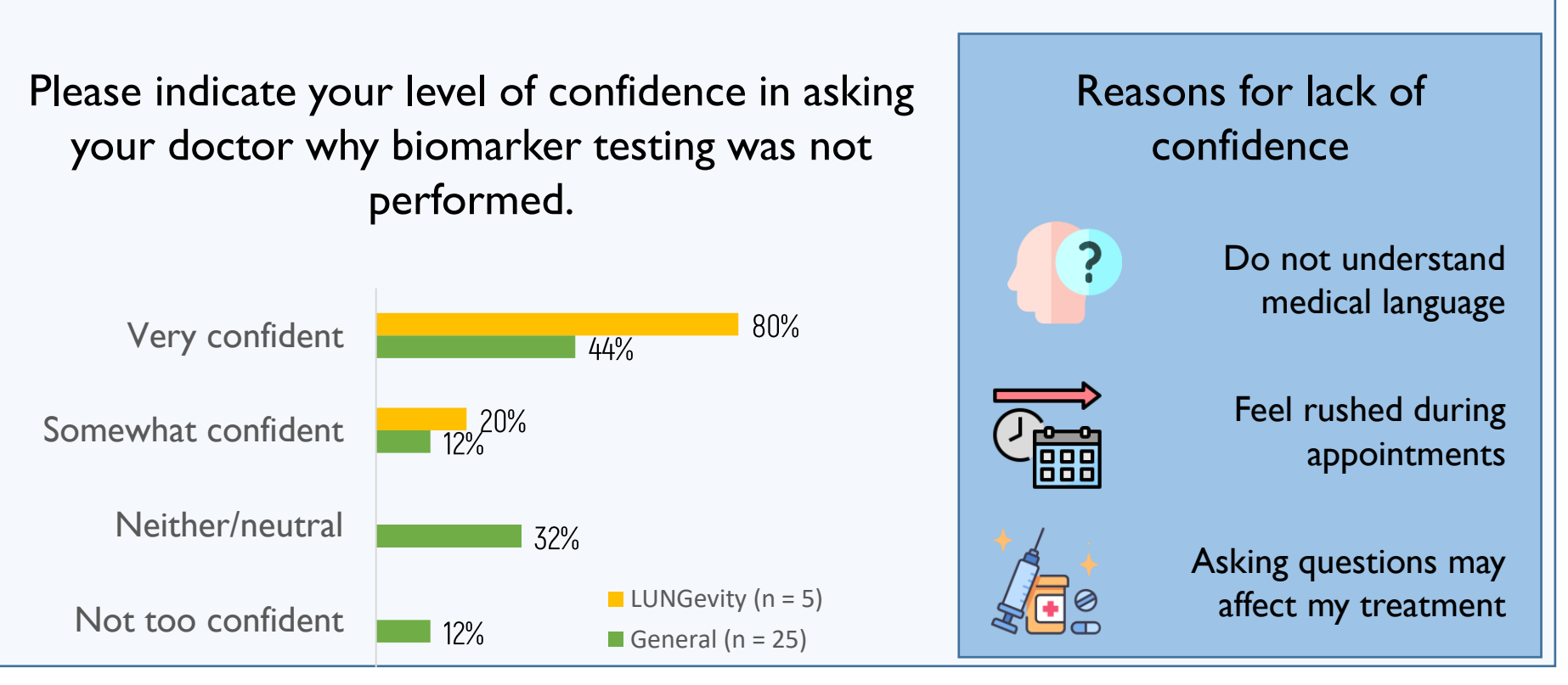


6 Testing is happening at very different rates between the general patient population and those engaged with patient advocacy. More than a quarter of general patients who have been tested do not know their results.



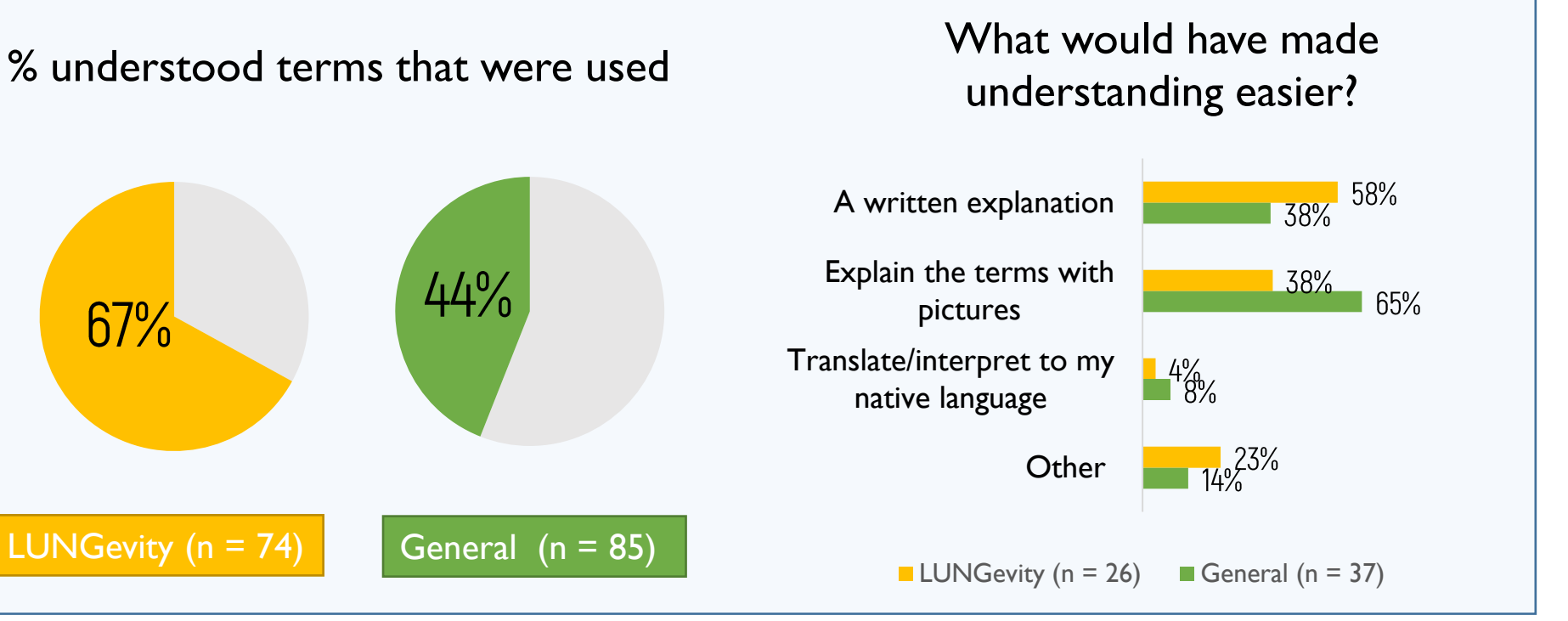
"The pulmonologist never mentioned biomarkers. I have to think if anyone knew it was my oncologist who changed my chemo cocktail. I also had a radiation oncologist, but he didn't do bloodwork, strictly scans. I assume my oncologist knew what my biomarker was. I would be interested to go back and ask him about that." – Low-Income Patient

7 The general patient group was less confident asking their oncologist why testing was not performed. This finding was confirmed during focus group discussions.

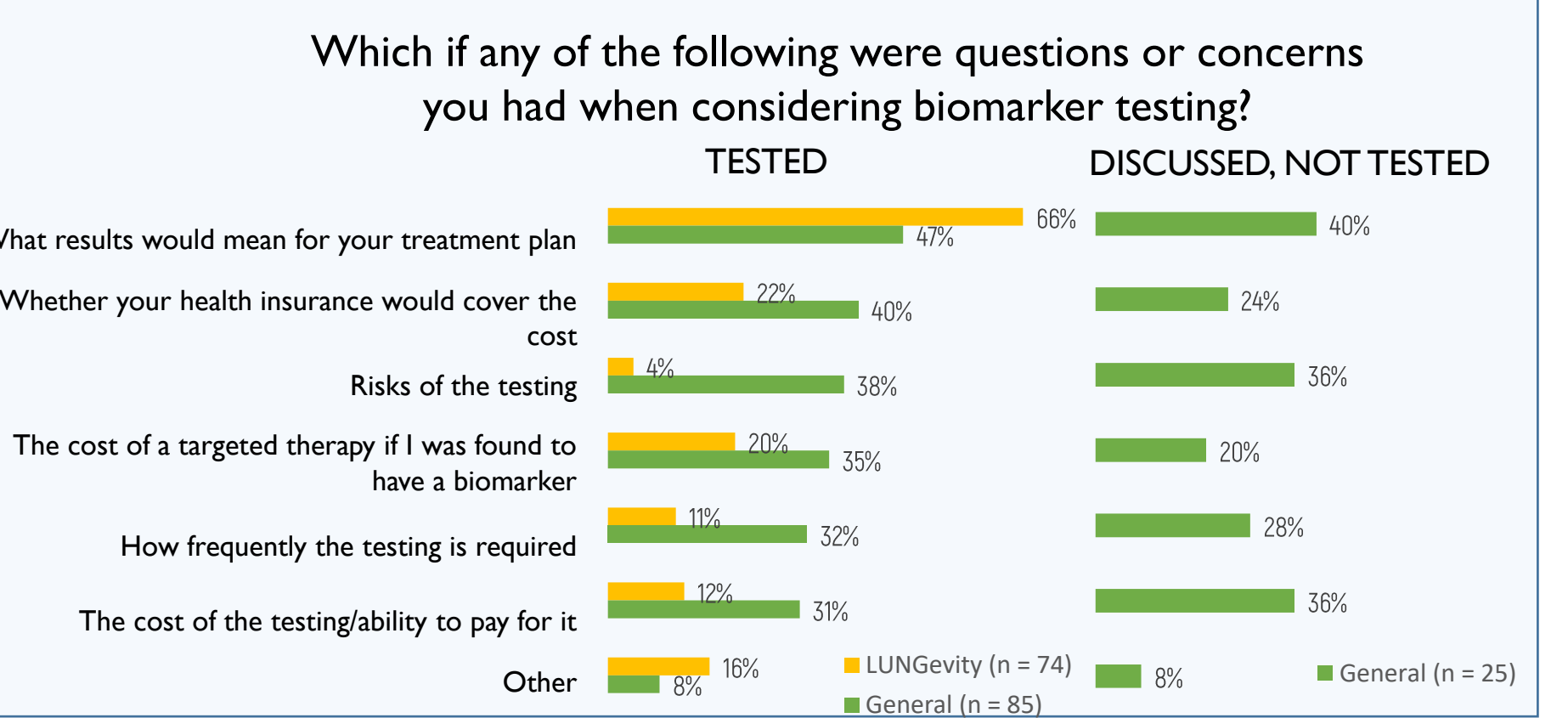


"When I asked about survival there was crickets – I was asked do I want to have treatment or do I want to talk about numbers. Even if they include us, its just something they do to make us feel like we have a little bit of control" –African-American Patient

8 More patients in the LUNGevity group knew about the results of their testing and understood the terms being used in discussions.



9 Patients who were tested were more likely to continue to have questions about how their results would impact treatment.



10 Discussion

- Expanded and enhanced education on biomarker testing designed for patients and patient-provider communication is needed.
- There is a significant divide in awareness of testing and rates of/experience with biomarker testing between the general patient population and those connected to resources of patient advocacy organizations.

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