Project PRIORITY: *A patient-founded and patient-driven research partnership to gather real-world data on EGFR-positive lung cancer*

Ivy Elkins ,Upal Basu Roy, Jill Feldman, Anita Figueras, Teri Kennedy, Andrea Ferris

EGFResisters
Patients driving research to save lives

@EGFRResisters
https://egfrcancer.org/

LUNGEVITY
Find it. Treat it. Live.

@LUNGevity
www.LUNGevity.org

I have served as a consultant for

- **AstraZeneca**
- **Boehringer Ingelheim**
- **Amgen**
- **Bristol-Myers Squibb**
- **Celgene**

EGFResisters

Patients driving research to save lives

LUNGEVITY

Find it. Treat it. Live.

PROJECT PRIORITY

PATIENT REPORTED INITIATIVE ON RESISTANCE, INCIDENCE, TREATMENT STUDY

September 9, 2019

WHAT IS PROJECT PRIORITY?

- **Patient-founded** and **patient-driven** research partnership between the EGFR Resisters and LUNGevity Foundation.
- Study Objectives:
  - Understand needs of EGFR-positive lung cancer community
  - Identify areas for improvement in diagnosis and treatment
  - Give voice to patient concerns regarding risk factors, treatments, and symptoms and side-effect management

COLLECTING REAL-WORLD PATIENT-REPORTED DATA USING A PATIENT EXPERIENCE SURVEY

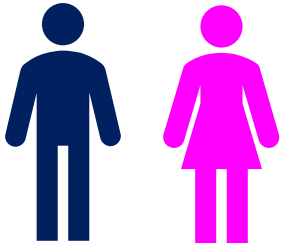
- Quantitative survey developed with input from patients, caregivers, clinicians, and regulators
- International survey (only in English) open to patients with a diagnosis of EGFR-positive lung cancer and their caregivers
- 130-question survey covering specific domains:

PARTICIPANT DEMOGRAPHICS

253 participants included in analysis. Study is still accruing

28% international participants (ex-US)

Ex-US: Europe (48%), Australia (23%), Asia (20%), South America (9%)



22% 78%

Variable	US	Ex-US
Diagnosed in the past 5 years	83.2%	85.1%
Average age (± S.D.)	58 (11.9)	54 (10.5)

Active versus environmental tobacco exposure

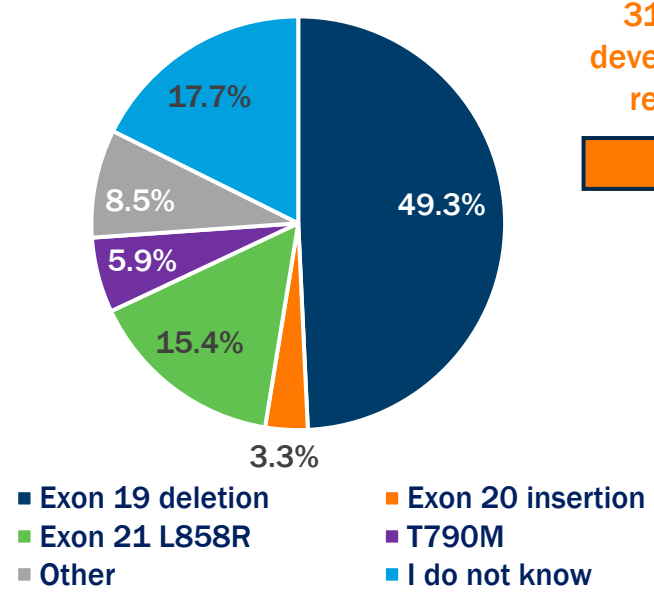
16% 35%

Likelihood of developing T790M mutation after first-line treatment (using forward regression)

Afatinib, 2.5X Erlotinib, 3.3X

EGFR MUTATIONS DETECTED AT DIAGNOSIS AND AT PROGRESSION OR RECURRENCE

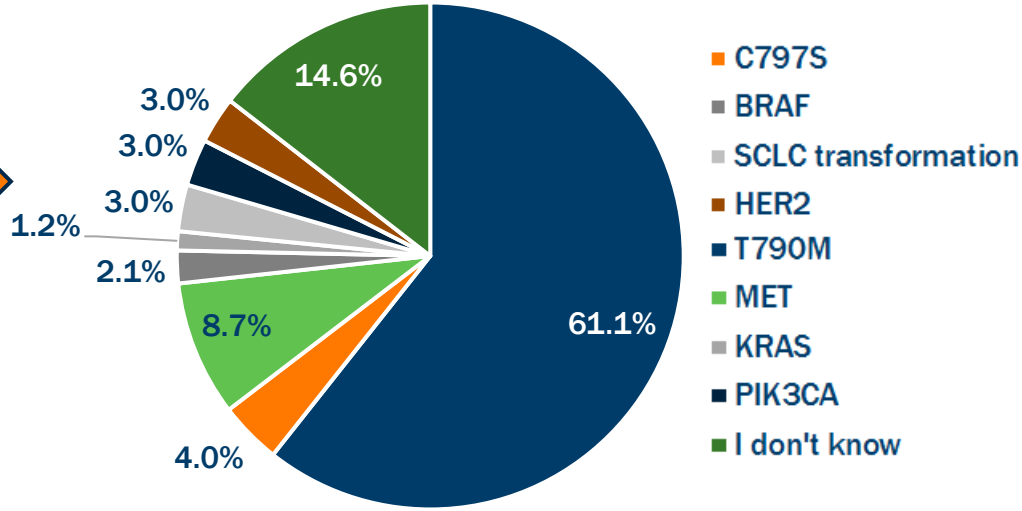
Mutations discovered at diagnosis



N = 253

31% report development of resistance

Mechanisms of resistance after first line treatment



N = 78

T790M seen after erlotinib and afatinib
C797S and PIK3CA seen after osimertinib
HER2 seen after erlotinib and osimertinib

DIAGNOSTIC AND TREATMENT JOURNEY OF US AND EX-US PARTICIPANTS

NGS ** at both diagnosis and recurrence		US	Ex-US
NGS tissue	Once	27.3%	8.2%*
	More than once	13.4%	1.4%*
	Never	32.9%	64.4%*
	I do not know	26.3%	26.0%
NGS liquid	Once	29.5%	26.4%
	More than once	15.5%	1.4%*
	Never	39.4%	59.7%*
	I do not know	15.5%	12.5%

* - significantly different from US respondents at $p < 0.05$ by Chi-square

** - NGS was defined as any next-generation sequencing panel such as Foundation Medicine

Clinical trial participation		US	Ex-US
Doctor offered clinical trials	Yes	33.7%	22.9%*
Ever participated in a clinical trial	Yes	21.2%	12.9%*
Participated in 1st-line trial	Yes	4.8%	1.2%

* - significantly different from US respondents at $p < 0.05$ by Chi-square

DIAGNOSTIC AND TREATMENT JOURNEY OF US AND EX-US PARTICIPANTS

	Variable	US	Ex-US
No of lines of therapy received	One	41.5%	57.3%*
	Two	28.7%	28.8%
	Three or more	29.7%	13.7%*
First-line therapy	Combination	27%	13.8%*
	Erlotinib	28.7%	36.9%
	Afatinib	13.3%	20.6%
	Gefitinib	0.00%	10.9%*
	Osimertinib	34.6%	17.8%*
	Chemotherapy	19.2%	9.6%*
	Immunotherapy	4.8%	0.00%
	Radiation (Palliative)	19.7%	10.9%

*- significantly different from US respondents at p < 0.05 by Chi-square

*** - Combination = TKI + chemo or TKI + angiogenesis inhibitor//Excludes radiation

		US	Ex-US
Brain metastasis present	Yes	64%	49%
Type of treatment for brain metastasis	Whole brain radiation	14.7%	33.3%*
	SRS	60.3%	50.0%*
	Surgery	14.7%	8.3%
	Controlled by TKI**	48.5%	33.3%*

*- significantly different from US respondents at p < 0.05 by Chi-square

** - Did not receive surgery or radiation

CONCLUSIONS

- Project PRIORITY participants match characteristics of the EGFR-positive lung cancer community
- Considerable differences exist between treatment experiences of US and ex-US participants
- Additional analysis ongoing:
  - Risk factors including familial history of lung cancer
  - Treatment sequencing and side-effect management
  - Difference by demographics (gender and patient/caregiver)

Patient-reported data is a powerful source of real-world data and can complement clinician-reported data and electronic health records data to identify treatment patterns

IN MEMORY

Anita Figueras
Co-founder, EGFR Resisters

Teri Kennedy
Co-founder, EGFR Resisters