



# International Online Tool for Therapeutic Decision Making in NSCLC (V2.0)



CLINICAL CARE OPTIONS<sup>®</sup>  
ONCOLOGY

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## Background

- Practice guidelines in non-small-cell lung cancer (NSCLC) list multiple therapy choices based on different levels of evidence but cannot account for variability in patient (pt)/tumor characteristics between individual pt cases
- To provide oncologists with expert guidance and feedback on choice of treatment for specific pt scenarios, in 2012 we implemented an **interactive Web-based decision support tool**, in which oncologist users input specific pt characteristics and selected among treatment options, then compared their selection with that of a NSCLC expert panel.<sup>[1]</sup>
- Here we report data from **version 2.0** of this tool developed in 2014 with an international expert panel, capturing current treatment trends for advanced NSCLC and investigating the impact of this online tool on oncology practitioners

## Study Components

- Online decision support tools developed in 2012 and 2014
  - Faculty (2012):** David R. Gandara, MD; Martin J. Edelman, MD; Giuseppe Giaccone, MD; Suresh S. Ramalingam, MD; and Howard "Jack" West, MD
  - Faculty (2014):** David R. Gandara, MD; Wilfried Eberhardt, MD; Tony Mok, MD; Nagahiro Saijo, MD, PhD; Giorgio V. Scagliotti, MD, PhD; and Yi-Long Wu, MD
- Each tool included **96 different NSCLC case variations** based on specific pt/tumor characteristics, including tumor histology, mutation status, age, performance status (PS), smoking history, and pt goals
- Users are prompted to enter pt/tumor characteristics and indicate their intended clinical approach
  - Recommendations from the experts are displayed
  - Users are asked whether the experts' recommendation confirmed or changed their intended clinical approach
- 2014 tool online at:** <http://clinicaloptions.com/NSCLCTool2014>

## Potential First-line and Maintenance Therapy Options Available in 2014 Tool

Targeted Therapy	Platinum Chemotherapy	Nonplatinum Chemotherapy
None	None	None
Afatinib	Carboplatin	Albumin-bound paclitaxel
Bevacizumab	Cisplatin	Docetaxel
Crizotinib	Unsure	Etoposide
Erlotinib		Gemcitabine
Gefitinib		Paclitaxel
Unsure		Pemetrexed
		Vinorelbine
		Unsure

## Results

### Tool Participant Demographics

- V1.0: 442 oncologists input 653 unique pt cases from March 2012 - July 2012
  - 88% practice outside the US
- V2.0: 218 oncologists input 344 unique pt cases from May 2014 - October 2014
  - 87% practice outside the US (30% Europe, 13% East Asia, 20% South/West Asia)

### Characteristics of Pt Cases Entered by Oncologists

Case Characteristic	V1.0, n (%)	V2.0, n (%)
Tumor histology		
▪ Nonsquamous	483 (74)	233 (68)
▪ Squamous	170 (26)	111 (32)
Mutational status		
▪ EGFR+/ALK-	204 (31)	78 (23)
▪ EGFR-/ALK+	62 (9)	31 (9)
▪ EGFR-/ALK-	387 (59)	235 (68)
Age		
▪ < 70 yrs	519 (79)	275 (80)
▪ ≥ 70 yrs	134 (21)	69 (20)
Zubrod PS		
▪ 0/1	562 (86)	291 (85)
▪ 2	91 (14)	53 (15)
Smoking history		
▪ No/former light	281 (43)	141 (41)
▪ Former heavy/current	372 (57)	203 (59)
Pt goal		
▪ Improved RR, survival	486 (76)	265 (77)
▪ Better quality of life	167 (24)	79 (23)

### NSCLC Tool Screenshots (Examples)

**Patient Disease and Characteristics**

Tumor Histology: Nonsquamous

Mutational Status: EGFR and ALK Negative

What are the primary outcomes that the patient desires?: Response and survival

Patient Age: Younger than 70 years of age

Zubrod ECOG Performance Score: 0-1

Smoking History: Former heavy smoker/current smoker

Are you planning to treat this patient?: First-line Therapy

Next

**Expert Insight**

Patient Disease and Characteristics

Expert	First-line	Maintenance
Expert - Italy	Cisplatin + Pemetrexed	Pemetrexed
Expert - Germany	Cisplatin + Paclitaxel	Pemetrexed
Expert - USA	Bevacizumab + Carboplatin + Paclitaxel	Bevacizumab
Expert - Japan	Cisplatin + Pemetrexed	Pemetrexed
Expert - Hong Kong	Bevacizumab + Cisplatin + Pemetrexed	Pemetrexed + Bevacizumab
Expert - China	Carboplatin + Pemetrexed	Pemetrexed

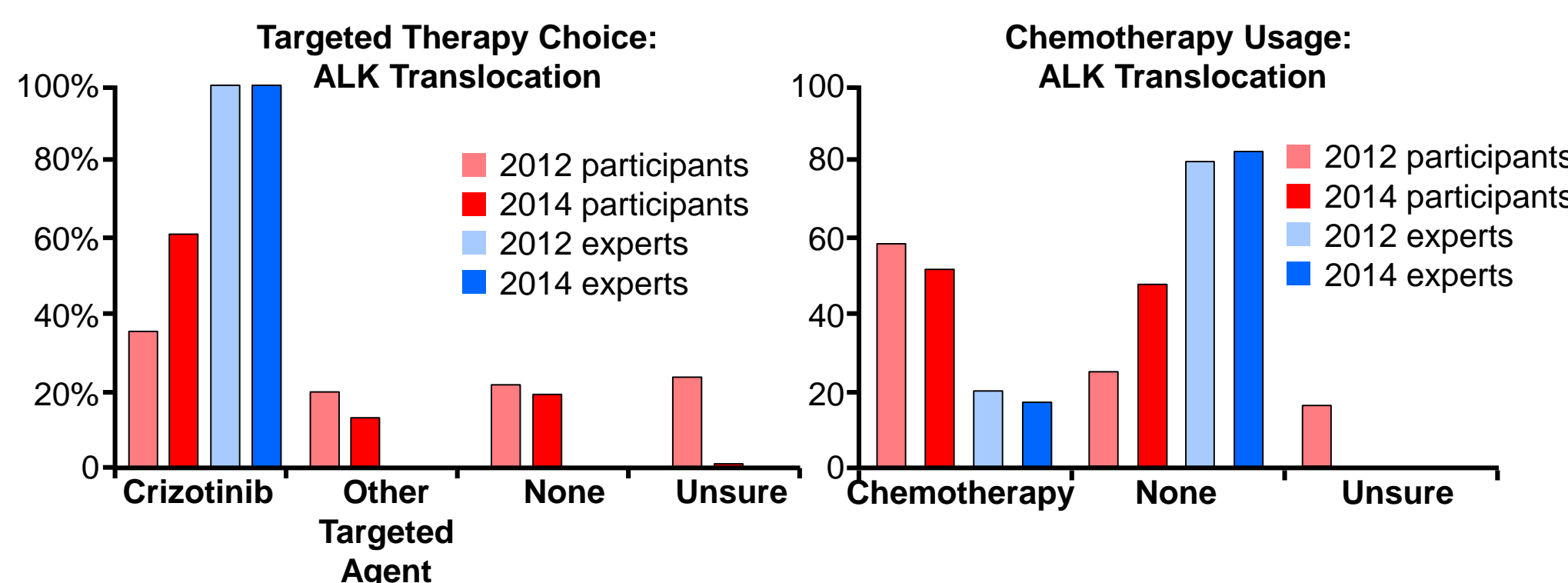
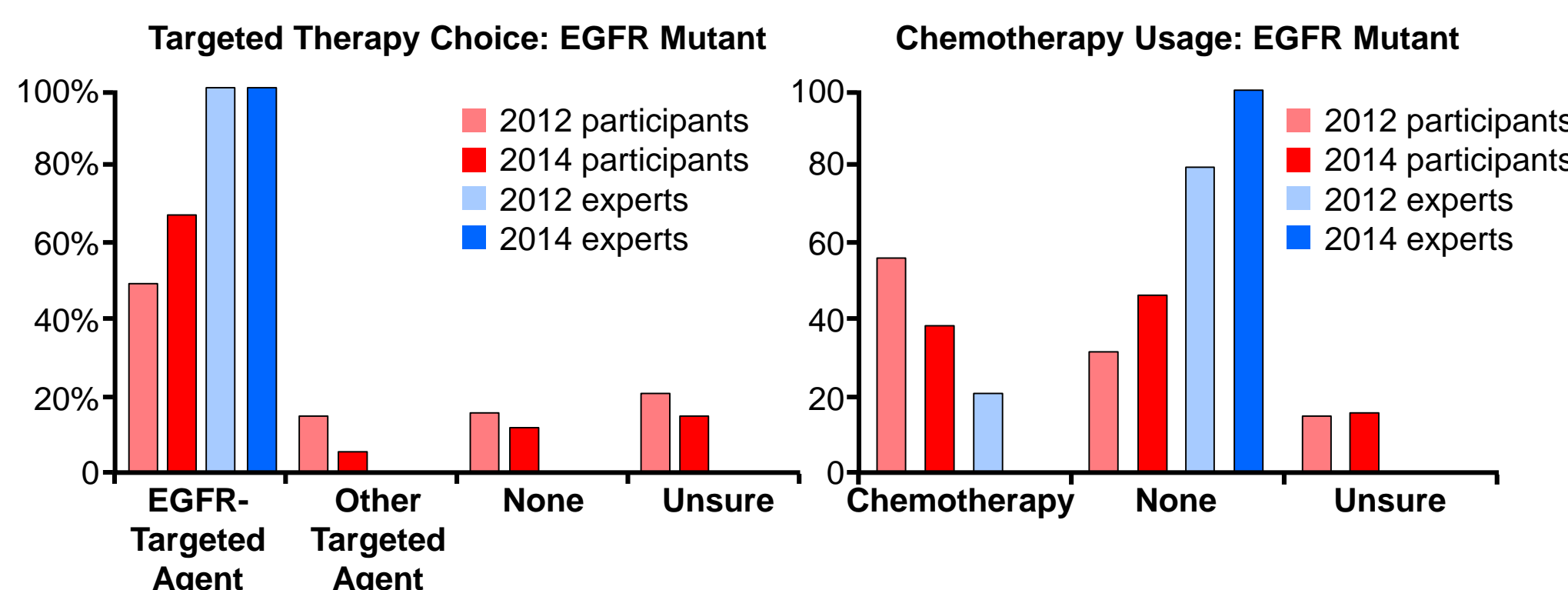
Click [X] to review Additional Considerations that may impact therapy.

Next

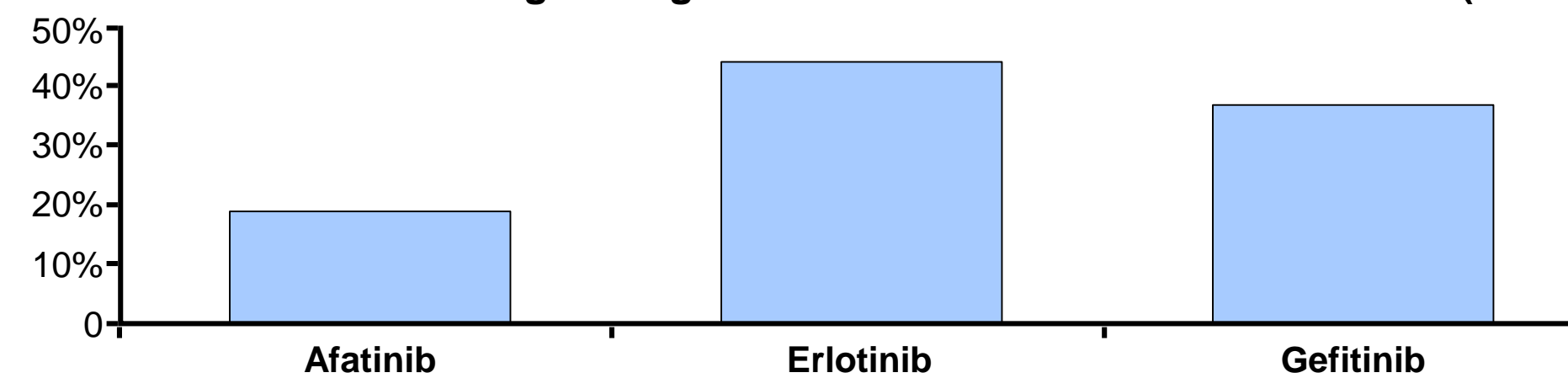
### Entry of Pt Characteristics

### Expert Recommendations

## First-line Therapy for NSCLC Case Scenarios With EGFR Mutations or ALK Translocations



### Relative Use of EGFR Targeted Agents for Scenarios With EGFR Mutation (n = 52)

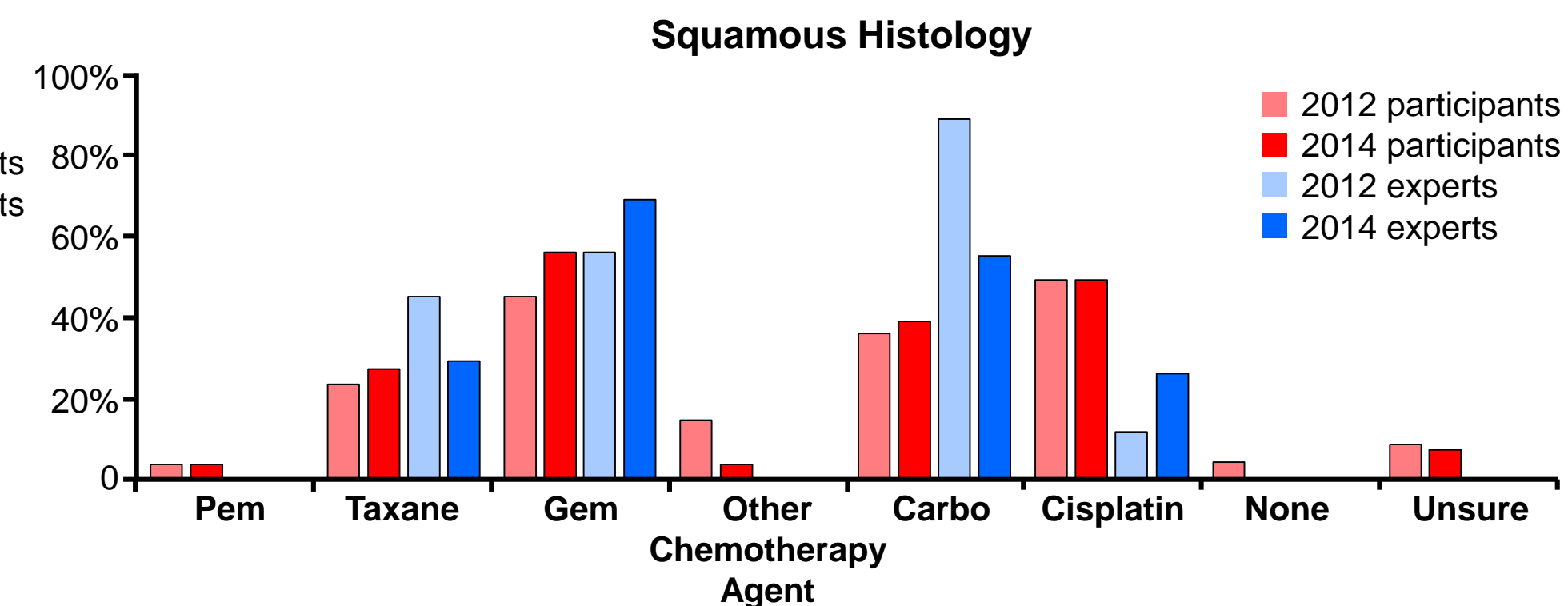
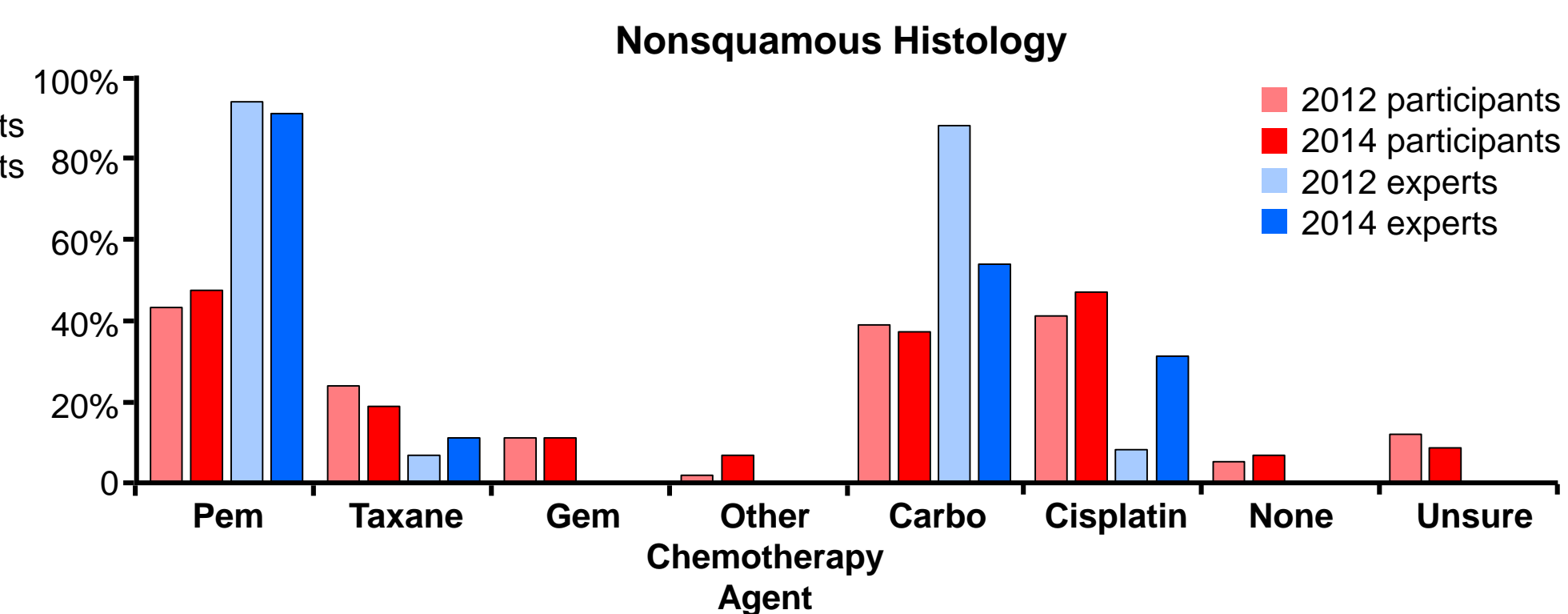


## Participant Responses: Did This Tool Affect (Change) Your Treatment Choice?

- Optional question; presented after users viewed the experts' treatment recommendation
- Answered for 182 of 344 eligible cases (53%)

Impact (n = 182)	Overall, n (%)
Changed my treatment plan to agree with the expert recommendations	28 (15)
Confirmed my treatment plan (I agree with the expert recommendations)	130 (71)
I disagree with the expert recommendations	10 (5.5)
There are barriers to implementing the expert recommendations	14 (8)

## Choice of First-line Chemotherapy for NSCLC Case Scenarios Without Actionable Mutations



## Conclusions

- Expert consensus recommendations were largely unchanged from 2012 to 2014, and there was a high degree of concordance
- More oncologist users chose targeted agents as first-line therapy for EGFR mutations and ALK translocations in 2014
- Users' treatment approach was confirmed the in 71% of cases where this optional question was answered
  - Viewing the expert insights led to a planned treatment change in 15% of cases
- Users of V2.0 disclosed that barriers were present in their practices implementing expert recommendations in 8% of cases
- Online tools that provide customized, pt-specific expert advice may aid decision making for clinicians managing pts with advanced NSCLC, serve an educational purpose, and capture practice trends

## Reference

1. Chow H, Edelman MJ, Giaccone G, et al. J Thorac Oncol. 2015;[Epub ahead of print].

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