Expert Recommendations and Global Practice Patterns From 2012-2015:
Results From an Annually Updated Online Decision Aid for Multiple Myeloma (MM)

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Background

Clinical practice guidelines for MM list many therapeutic choices, with similar levels of evidence but frequently lack specific recommendations for individual patient cases. We sought to determine whether expert recommendations on MM treatment, based on specific disease and patient characteristics and delivered via an interactive, online decision aid, would affect the planned treatment decisions of community practitioners. Here we report data from the third version (2015) of this tool that captures changes in expert recommendations and treatment trends for MM since 2013.

Study Components

- Online decision support tool:
  - Faculty (2013): Adam D. Cohen, MD; Sagar Lonial, MD; Amitabha Mazumder, MD; Robert Z. Orlowski, MD, PhD; and G. David Roodman, MD, PhD
  - Faculty (2014): Kenneth Anderson, MD; Adam D. Cohen, MD; Sagar Lonial, MD; Amitabha Mazumder, MD; and G. David Roodman, MD, PhD
  - Faculty (2015): Kenneth Anderson, MD; Shaji Kumar, MD; Suzanne Lentzsch, MD, PhD; Sagar Lonial, MD; and G. David Roodman, MD, PhD

- For the 2015 tool, each expert provided treatment recommendations in March 2015 for patient scenarios in 3 settings: induction, maintenance, and relapsed/refractory disease

- The tool included a total of 352 patient cases based on variations of the following criteria: eligibility for autologous stem cell transplantation, results of chromosome analysis, ECOG performance status, risk of renal insufficiency or peripheral neuropathy, cardiopulmonary dysfunction, as well as previous therapy and depth of response to previous therapy

- Tool users were prompted to select patient information and then indicate their intended clinical approach
  - Recommendations from the 5 experts were displayed
  - Users were asked to indicate whether the experts' recommendation confirmed or changed their intended clinical approach

- 2015 online tool at clinicaloptions.com/MM2015Guidance

MM Tool Screenshots (Examples)
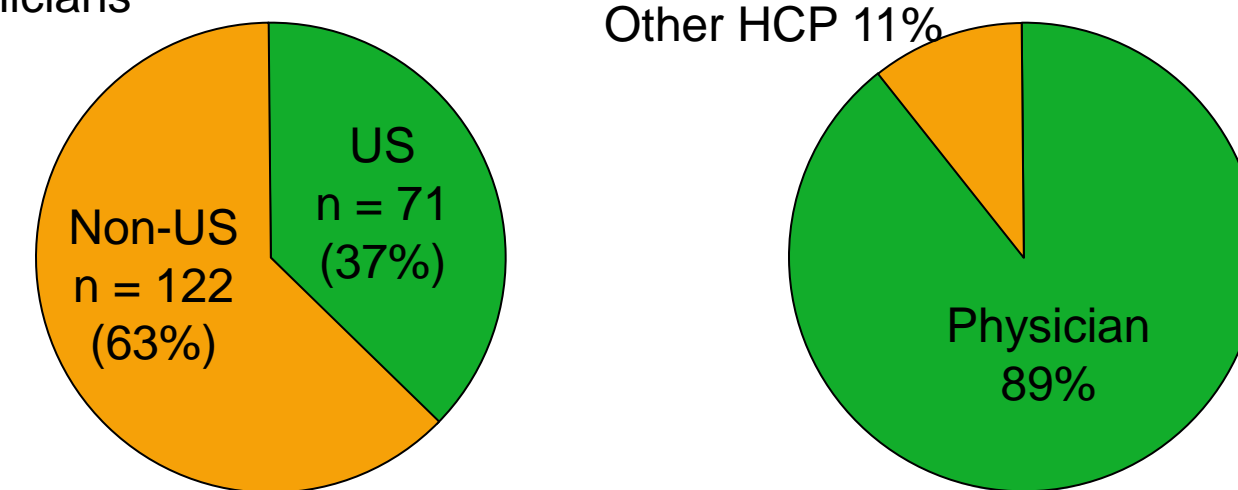
Entry of Patient Characteristics

Expert Recommendations

Results

2015 Tool Use

- We analyzed 306 different patient cases entered by 193 practicing clinicians

US n = 71 (37%)
Non-US n = 122 (63%)

Other HCP 11%
Physician 89%

Use of the Tool and Impact on Treatment Plan

- Of the total patient cases analyzed from the tool:
  - 62% were induction
  - 17% were maintenance
  - 21% were relapsed/refractory
- Intended use and tool impact questions were optional and available after users received the experts' recommendation
  - Answered for 113 of 306 cases (37%)

Intended Use of 2015 Tool, %	Cases
As an educational resource only; the patient case entered was hypothetical	57
The case entered was not hypothetical; I was interested in recommendations for a specific patient	43

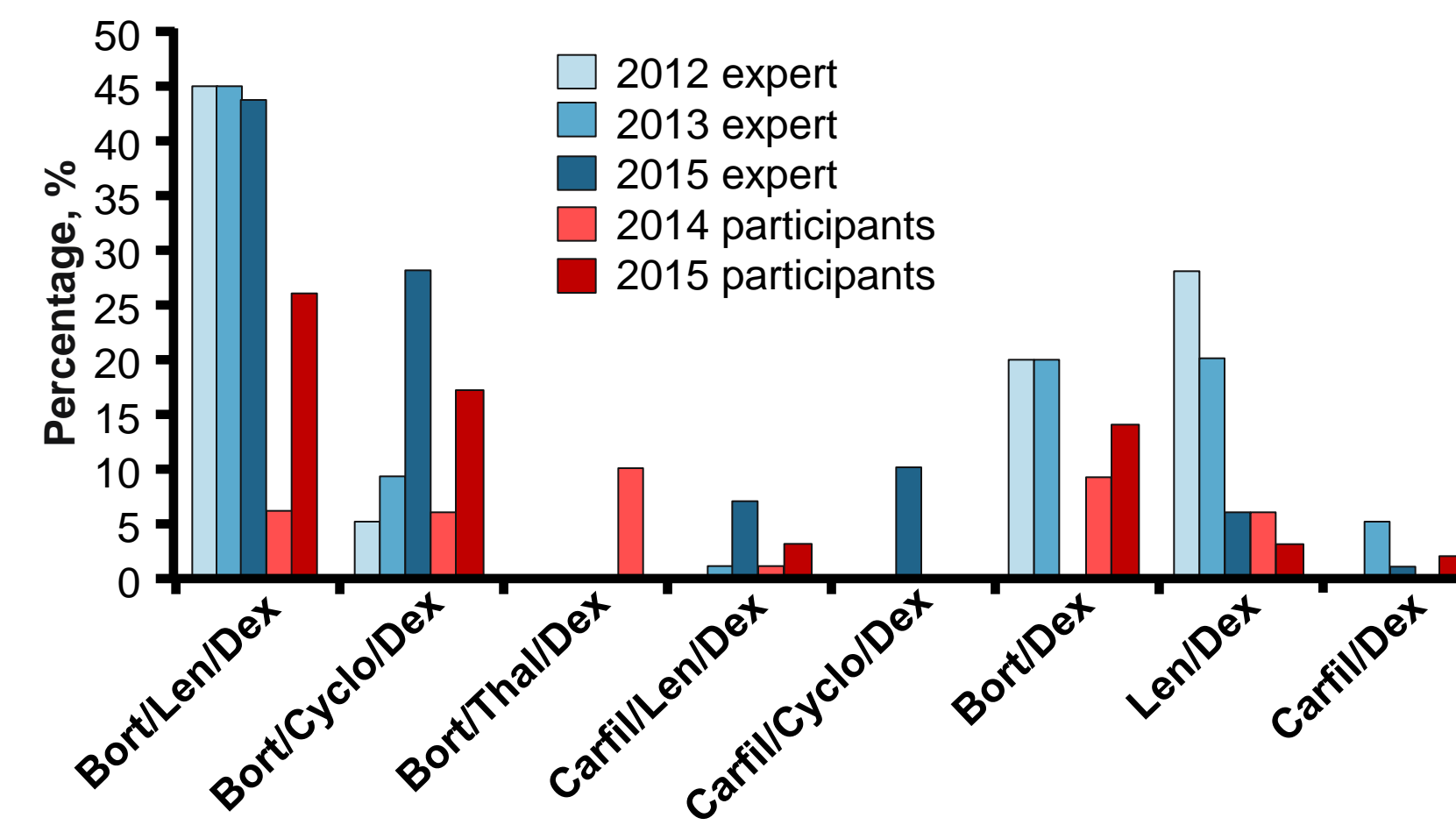| Self-Identified Clinical Impact, %	Cases
Changed my treatment plan to agree with the expert recommendations	22
Confirmed my treatment plan (I agree with the expert recommendations)	46
I disagree with the expert recommendations	4
There are barriers to implementing the expert recommendations	16

Induction Therapy

- 2015 expert recommendations:
  - Melphalan-based regimens were not recommended for any case scenario
  - Use of carfilzomib for induction increased to 12%
- 2015 participant data:
  - Transplant eligible (n = 111); **51%** of users selected regimens that differed from expert selections
  - Transplant ineligible (n = 79); **44%** of users selected regimens that differed from expert selections
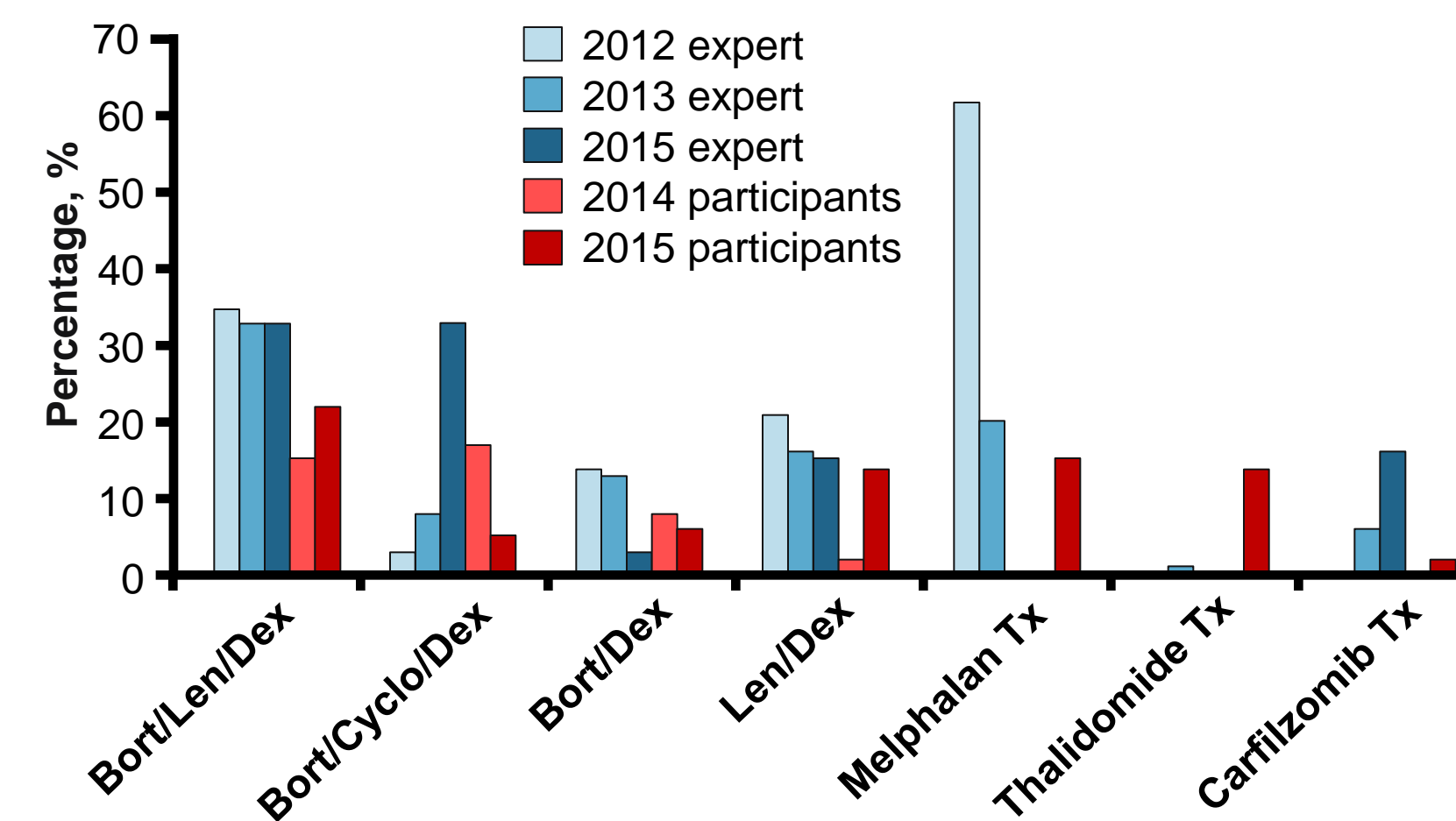
Acknowledgments and Disclosures

Induction Therapy for Transplant-Eligible Cases

Legend: 2012 expert, 2013 expert, 2015 expert, 2014 participants, 2015 participants
X-axis: Bort/Len/Dex, Bort/Cyclo/Dex, Bort/Thal/Dex, Carfil/Len/Dex, Carfil/Cyclo/Dex, Bort/Dex, Len/Dex, Carfil/Dex

Induction Therapy for Transplant-Ineligible Cases

Legend: 2012 expert, 2013 expert, 2015 expert, 2014 participants, 2015 participants
X-axis: Bort/Len/Dex, Bort/Cyclo/Dex, Bort/Dex, Len/Dex, Melphalan Tx, Thalidomide Tx, Carfilzomib Tx

Maintenance Therapy

- Postinduction therapy was recommended by the experts in every case scenario in 2015
- 2015 participant data (n = 52 cases):
  - 12% of users chose observation over therapy

Legend: 2015 expert, 2015 participants
Normal Cytogenetics: Bortezomib, Lenalidomide
High-Risk Cytogenetics: Bortezomib, Lenalidomide, Bortezomib/Lenalidomide
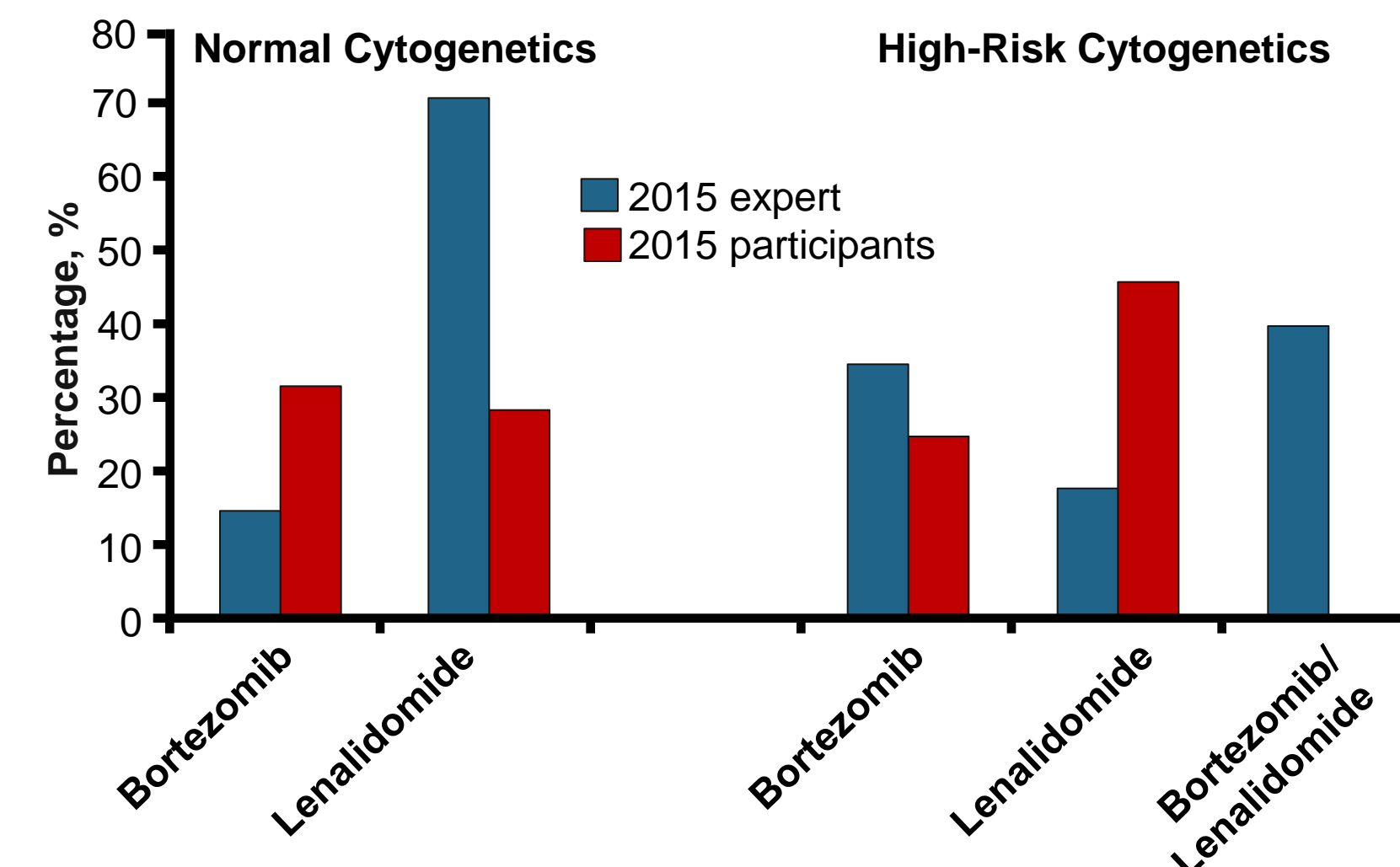
Therapy for Relapsed/Refractory Disease

- 2015 participant data (n = 64 cases)
  - **70%** of users selected regimens that differed from expert selections
  - 17% selected pomalidomide and 20% selected carfilzomib
  - Among users who selected panobinostat (n = 16 cases), 19% did so in combination with bortezomib/dex

Expert Recommendations for R/R Disease (N = 80 Cases)

Prior IMiD, < 6 Mos or No Response to Previous Therapy, %	2013	2014	2015
Bortezomib/dex	35	21	25
Bortezomib/pomalidomide/dex	0	0	25
Bortezomib/cyclophosphamide/dex	43	16	16
Carfilzomib/dex	23	36	13
Pomalidomide ± dex	0	13	11
Bortezomib/lenalidomide/dex	0	10	0
Prior IMiD and PI, < 6 Mos or No Response to Previous Therapy, %			
Carfilzomib/pomalidomide/dex	0	0	45
Pomalidomide ± dex	0	40	21
Bortezomib/pomalidomide/dex	0	0	10
Carfilzomib ± dex	75	35	4
Bortezomib/dex/liposomal doxorubicin/cyclophosphamide	13	5	0
Melphalan/prednisone	10	0	0
Cyclophosphamide/prednisone	0	10	0
Prior PI and < 6 Mos or No Response to Previous Therapy, %			
Carfilzomib/lenalidomide/dex	0	11	38
Lenalidomide/dex	66	36	25
Pomalidomide/dex	0	16	21
Lenalidomide/cyclophosphamide/dex	33	1	8
Bortezomib/lenalidomide/dex	1	13	0
Carfilzomib	0	13	0

Conclusions

- The recommended use of combination therapy with carfilzomib and pomalidomide increased among experts from 2013 to 2015
- In 2015, large numbers of users chose treatment options for induction and R/R settings not selected by experts
  - Experts generally preferred triplet regimens
  - Users but **not** experts continued to select melphalan tx and thalidomide tx
- This tool either confirmed or changed the user's intended clinical approach in 68% of cases where this optional question was answered
  - Viewing the expert insights led to a planned treatment change in 22% of cases