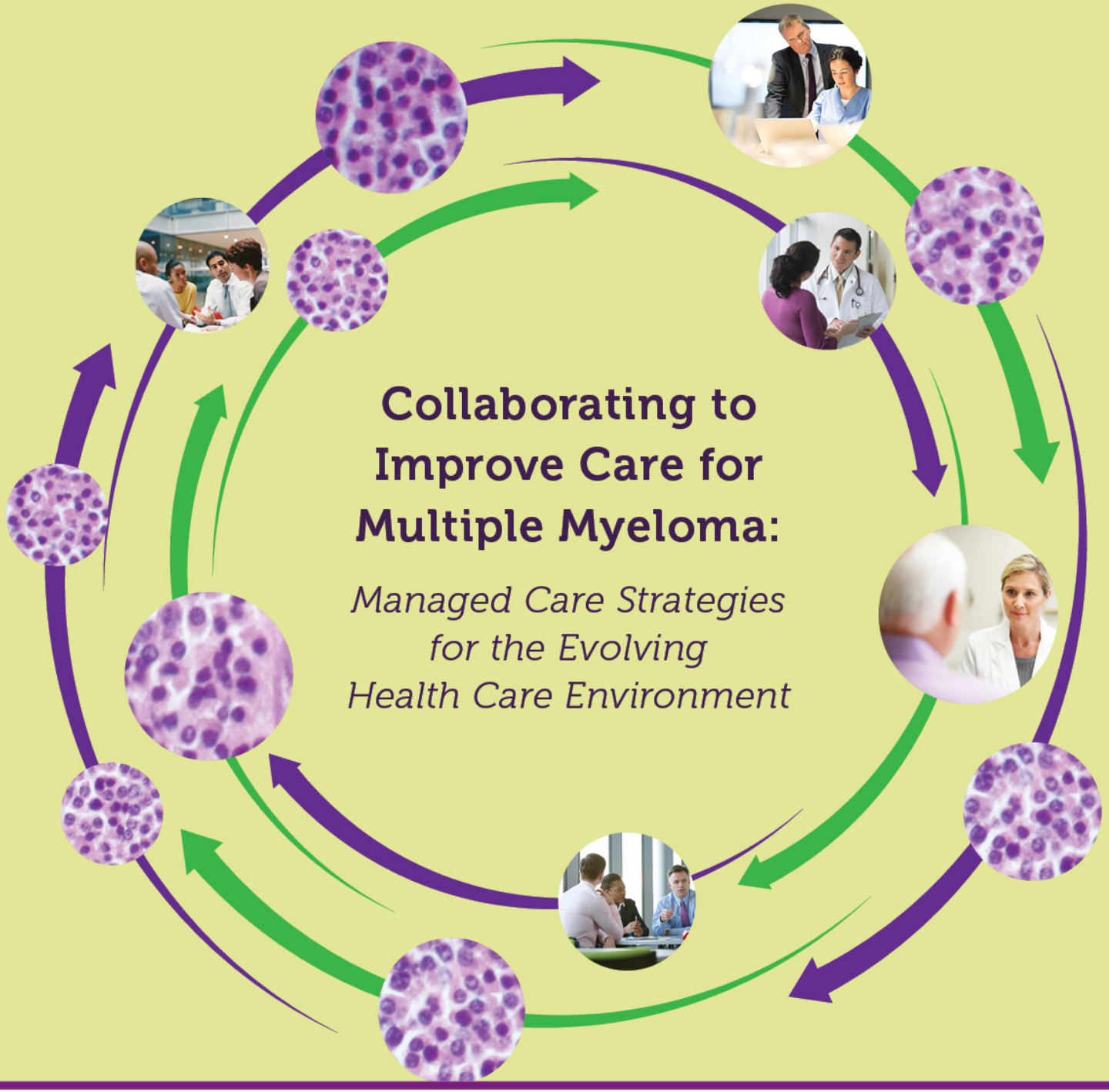

Collaborating to Improve Care for Multiple Myeloma:

Managed Care Strategies for the Evolving Health Care Environment

Jointly provided by

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PIM Postgraduate Institute for Medicine

This activity is supported by independent educational grants from Celgene Corporation and Takeda Oncology.

Welcome and Pre-Survey Questions

James Kenney, Jr., RPh, MBA
Manager, Specialty and Pharmacy Contracts
Harvard Pilgrim Health Care

Faculty Disclosure

- The ***faculty*** reported the following financial relationships or relationships to products or devices they or their spouse/life partner have with commercial interests related to the content of this CME activity:

  James Kenney, Jr., RPh, MBA

  - Has no real or apparent conflicts of interest to report

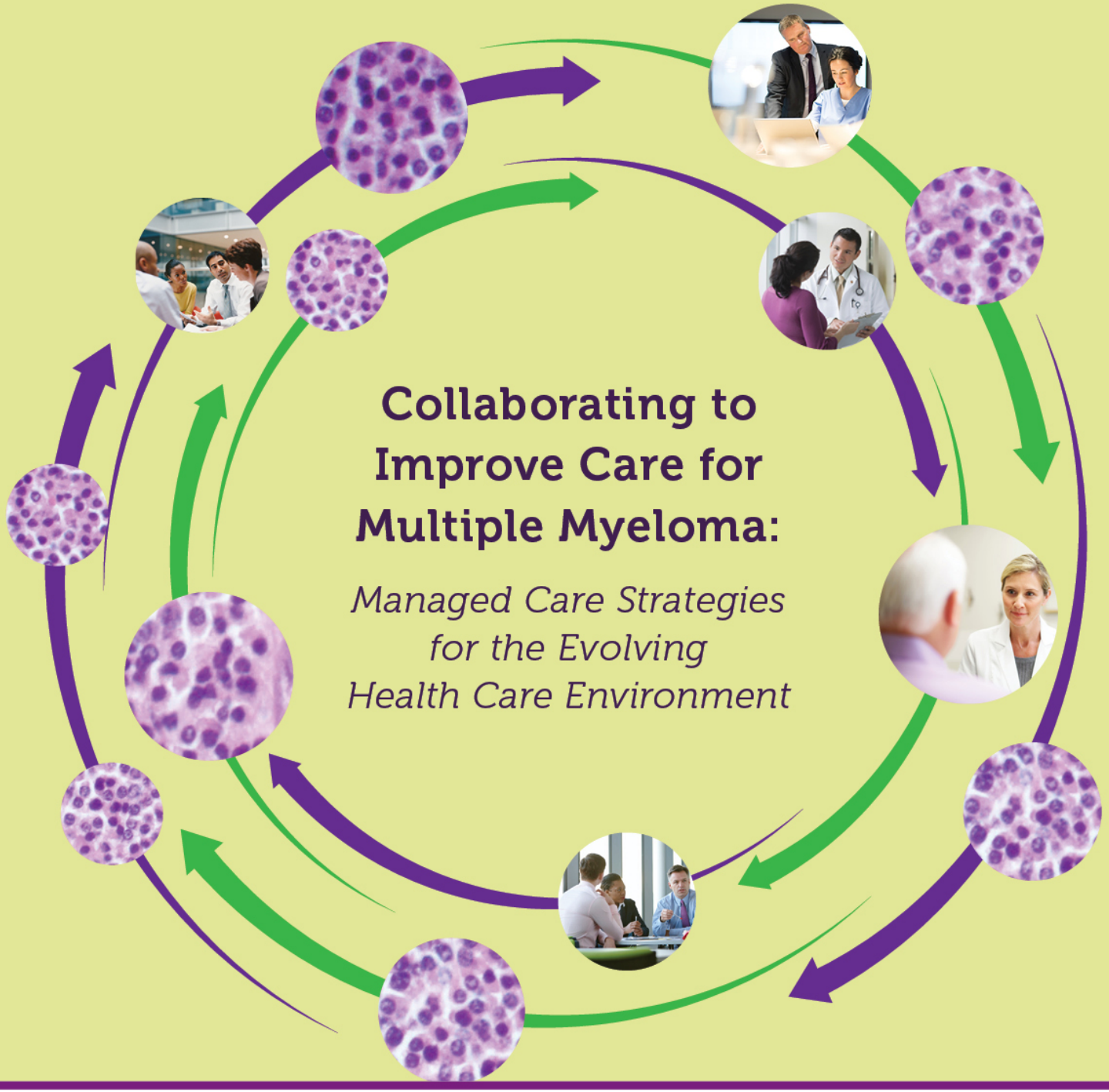
Agenda

6:35 AM – 7:00 AM	An Update on Practice Guidelines in Multiple Myeloma Management *David H. Vesole, MD, PhD, FACP*
7:00 AM – 7:20 AM	Designing and Implementing Clinical Pathways Initiatives to Reduce Treatment Variability and Improve Outcomes in Multiple Myeloma *David Frame, PharmD*
7:20 AM – 7:45 AM	Improving Multiple Myeloma Care via the Comprehensive Model: Attaining Provider Buy-in for Management Interventions and Specialty Pharmacy Services *James Kenney, Jr., RPh, MBA*
7:45 AM – 8:00 AM	Faculty Discussion/Question & Answer Session

Educational Objectives

After completing this activity, the participant should be better able to:

- Evaluate recent clinical data affecting evidence-based treatment guidelines for multiple myeloma (MM)
- Demonstrate the value of clinical pathways initiatives as a means of reducing treatment variability and improving clinical and economic outcomes in the management of MM
- Implement comprehensive care strategies involving effective communication methods and innovative oncology pharmacy benefit models integrated with specialty pharmacy management services
- Provide accurate and appropriate counsel as part of the managed care treatment team



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An Update on Practice Guidelines in Multiple Myeloma Management: Treatment Recommendations and Emerging Therapies

David H. Vesole, MD, PhD, FACP

Co-Chief and Director of Research, Multiple Myeloma

John Theurer Cancer Center

Hackensack University Medical Center

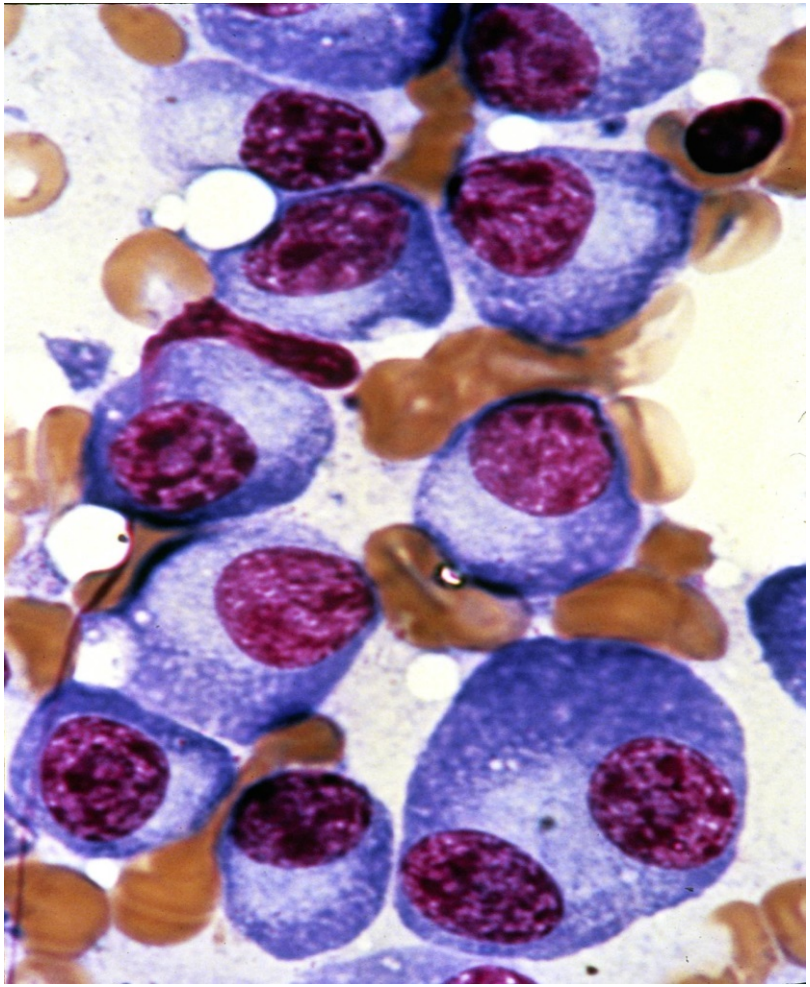
Faculty Disclosure

- The ***faculty*** reported the following financial relationships or relationships to products or devices they or their spouse/life partner have with commercial interests related to the content of this CME activity:

  David H. Vesole, MD, PhD, FACP

  - *Consulting Fees:* Onyx Pharmaceuticals, Inc.
  - *Fees for Non-CME/CE Services:* Celgene Corporation, Onyx Pharmaceuticals, Inc., Takeda Oncology

MM Disease Overview



- Cancer of the plasma cells in bone marrow
- Growth of myeloma cells
  - Disrupts normal bone marrow function
  - Reduces normal immune function
  - Results in abnormal production and release of monoclonal protein into blood and/or urine
  - Destroys and invades surrounding bone

Barlogie et al. In: *Williams Hematology.* 7th ed. 2006:1501.
Durie. International Myeloma Foundation. 2007. www.myeloma.org.

MM: Epidemiology

- 26,850 new cases each year; incidence is slowly increasing
- 11,240 deaths each year
- 75,000 patients alive with MM
- Median age at diagnosis is 70 years
- Males > females (57:43)
- MM accounts for 1% of all malignancies
  - 10% of all hematologic malignancies
  - 20% of all hematologic malignancies in African-Americans

Etiology: Risk Factors for MM

- Chronic exposure to low-dose ionizing radiation (radon?)
- Occupational exposure to chemicals, pollution
- Genetic factors: increased risk of MGUS in families
- Chronic antigenic stimulation: recurrent infections, drug allergies
- Agent Orange and 9/11 debris exposure
- <u>Ultimately, we do not know why patients develop MM</u>

MGUS=monoclonal gammopathy of undetermined significance

Updated IMWG Criteria for MM Diagnosis

MGUS

- M protein < 3 g/dL
- Clonal plasma cells in bone marrow (BM) < 10%
- No myeloma defining events

Smoldering Myeloma

- M protein ≥ 3 g/dL (serum) or ≥ 500 mg/24 hrs (urine)
- Clonal plasma cells in BM ≥ 10% to 60%
- No myeloma defining events

Multiple Myeloma

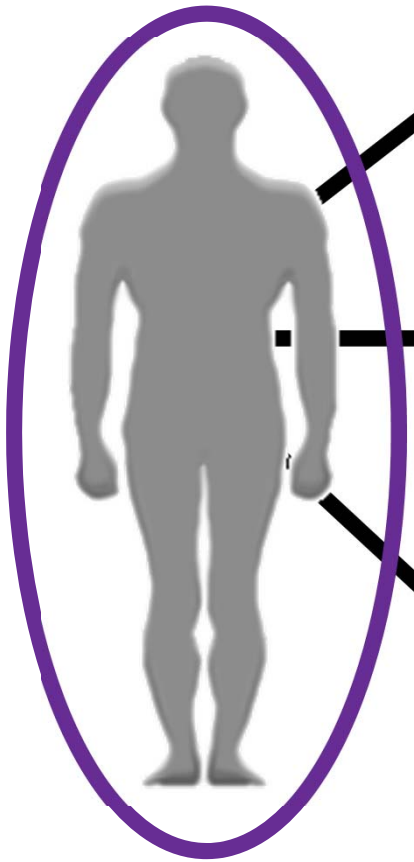
- Underlying plasma cell proliferative disorder AND 1 or more myeloma defining events:
- ≥ 1 CRAB* feature
- Clonal plasma cells in BM ≥ 60%
- Serum free light chain ratio ≥ 100
- >1 MRI focal lesion

*C: Calcium elevation: > 11 mg/dL or > 1 mg/dL higher than ULN
R: Renal insufficiency: creatinine clearance < 40 mL/min or serum creatinine > 2 mg/dL
A: Anemia: Hb < 10 g/dL or 2 g/dL < normal
B: Bone disease: ≥ 1 lytic lesions on skeletal radiography, CT, or PET-CT

IMWG=International Myeloma Working Group;
BM=bone marrow
MGUS=monoclonal gammopathy of undetermined significance

Rajkumar SV, et al. *Lancet Oncol*. 2014;15:e538-e548.

Clinical Manifestations of MM



M Protein

- Renal Compromise (30%)
- Neuropathy (33%)

Immune Deficiency

- Infection (15%)

Marrow Infiltration

- **Destruction of bone**
  - Hypercalcemia (15% to 20%)
  - Bone pain (75% to 80%)
  - Lytic lesions (70%)
- Anemia (70%)

Adapted from: Hoffman R. Hematology: Basic Principles and Practice, 5th Edition 2008. Ropper AH. *N Engl J Med*. 1998;338:1601-1607. Rajkumar SV. *Curr Probl Cancer*. 2009;33:7-64. IMF update 2003: http://myeloma.org/ArticlePage.action?articleId=1044. Accessed March 24, 2015.

Clinical Features at MM Presentation

- Increased plasma cells in the bone marrow: 96%
- Monoclonal protein: 93%
- Anemia (normochromic normocytic): 73%
- Lytic bone lesions: 67%
- Renal failure (serum creatinine ≥ 2.0 mg/dL): 19%
- Hypercalcemia (corrected calcium ≥ 11 mg/dL): 13%

Kyle RA, et al. *Mayo Clin Proc*. 2003;78:21-33.

Initial Diagnostic Evaluation

Evaluation	
History and physical	
Blood workup	CBC with differential and platelet counts BUN, creatinine Electrolytes, calcium, albumin, LDH Serum quantitative immunoglobulins Serum protein electrophoresis and immunofixation β_2-microglobulin Serum free light-chain assay
Urine	24-hr protein Protein electrophoresis (quantitative Bence-Jones protein) Immunofixation electrophoresis
Other	Skeletal survey Unilateral bone marrow aspirate and biopsy evaluation with immunohistochemistry or flow cytometry, cytogenetics, and FISH (fluorescent in situ hybridization) MRI and PET/CT as clinically indicated

NCCN. Clinical Practice Guidelines in Oncology: Multiple Myeloma. v.4.2015.

International Staging System (ISS): Prognostic Groupings

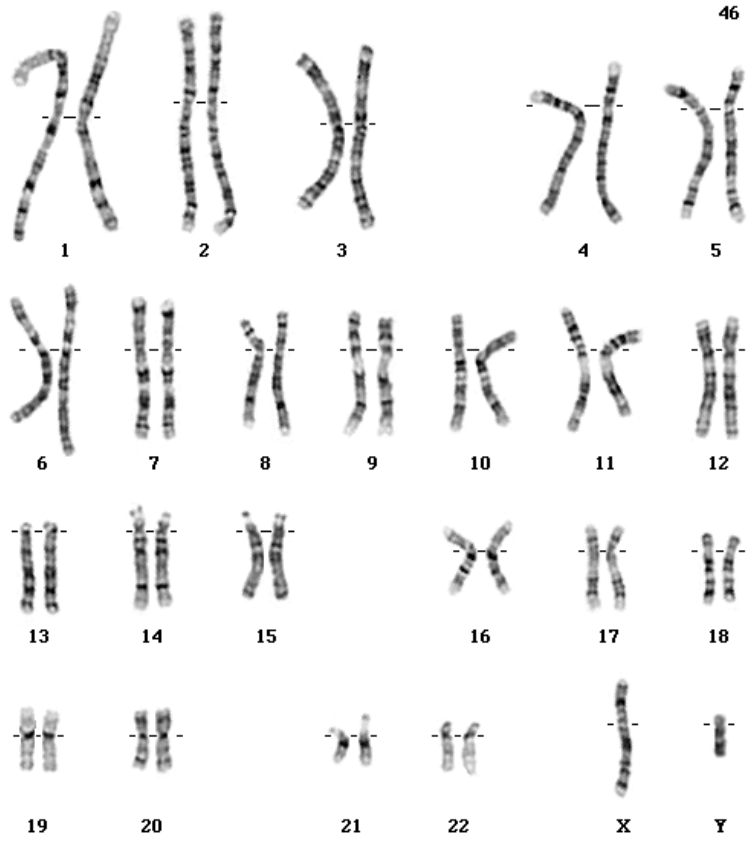
Better prognosis

Poorer prognosis

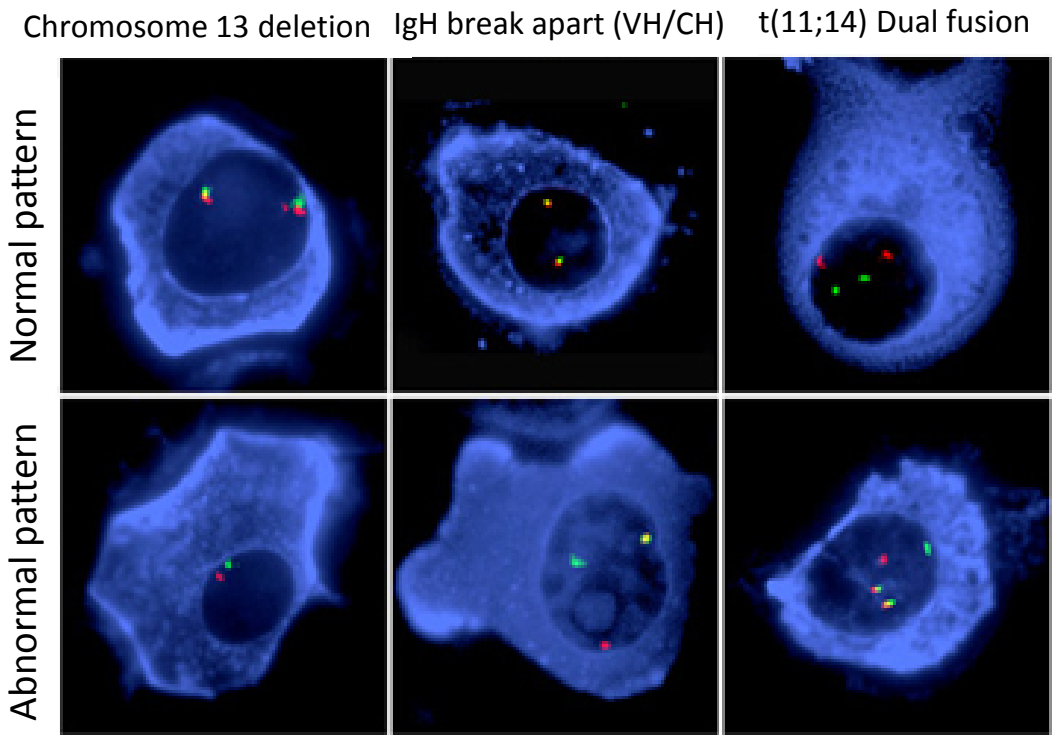
Stage	Criteria
Stage I	Serum β_2-microglobulin < 3.5 mg/L Serum albumin ≥ 3.5 g/dL
Stage II	Not stage I or stage III 2 possibilities: • Serum β_2-microglobulin < 3.5 mg/L but serum albumin < 3.5 g/dL • Serum β_2-microglobulin 3.5 to < 5.5 mg/L irrespective of serum albumin level
Stage III	Serum β_2-microglobulin ≥ 5.5 mg/L

Greipp et al. *J Clin Oncol*. 2005;23(15):3412.

Cytogenetics and Fluorescence In Situ Hybridization (FISH) are Important Prognostic Tools



Fluorescent in situ hybridization (FISH) in plasma cells of multiple myeloma patients



mSMART: Mayo Stratification for Myeloma and Risk-adapted Therapy

mSMART 2.0: Classification of Active MM

High-Risk: **20%**	Intermediate-Risk: **20%**	Standard-Risk: **60%**

▪ FISH
  ▪ del 17p
  ▪ t(14;16)
  ▪ t(14;20)
▪ GEP
  ▪ High-risk signature
	▪ FISH
	  ▪ t(4;14)*
	  ▪ 1q gain
	▪ Complex karyotype
	▪ Metaphase deletion 13 or hypodiploidy
	▪ High PC S-phase
		All others, including:
		▪ Trisomies
		▪ t(11;14)
		▪ t(6;14)

3 years	4 to 5 years	8 to 10 years

*translation termination codon

mSMART=Mayo Stratification for Myeloma And Risk-adapted Therapy; FISH=flourescence in situ hybridization; del=deletion; t=translocation; GEP=gene expression therapy; PC=plasma cell.

Mikhael et al. *Mayo Clin Proc.* 2013;88:360-376.

Managing MM

Initial Treatment Approach to MM

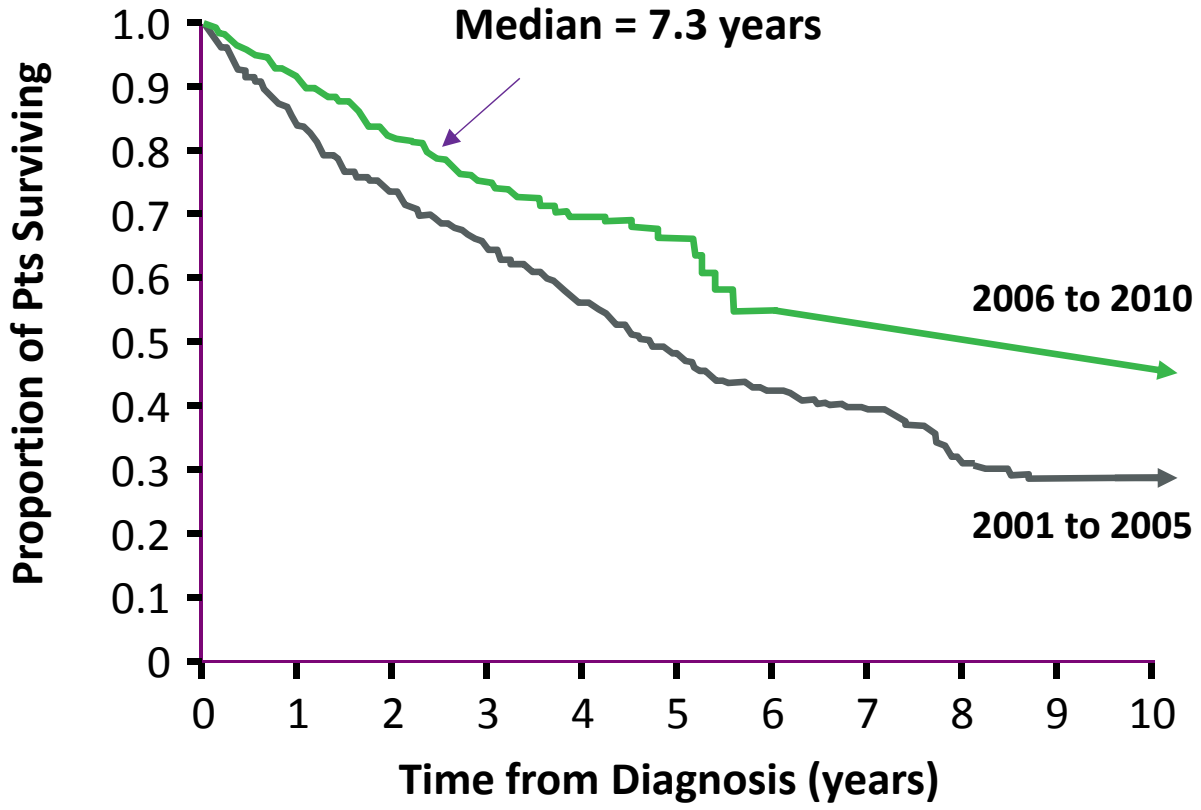
Transplant Ineligible
(based on age, performance score, and comorbidities)

- **Induction treatment**
- **Maintenance**

Transplant Eligible

- **Induction treatment** (nonalkylator-based induction x 4-6 cycles)
- **Stem cell harvest**
- **Stem cell transplantation**
- **Consolidation therapy ?**
- **Maintenance?**

MM Survival Is Improving

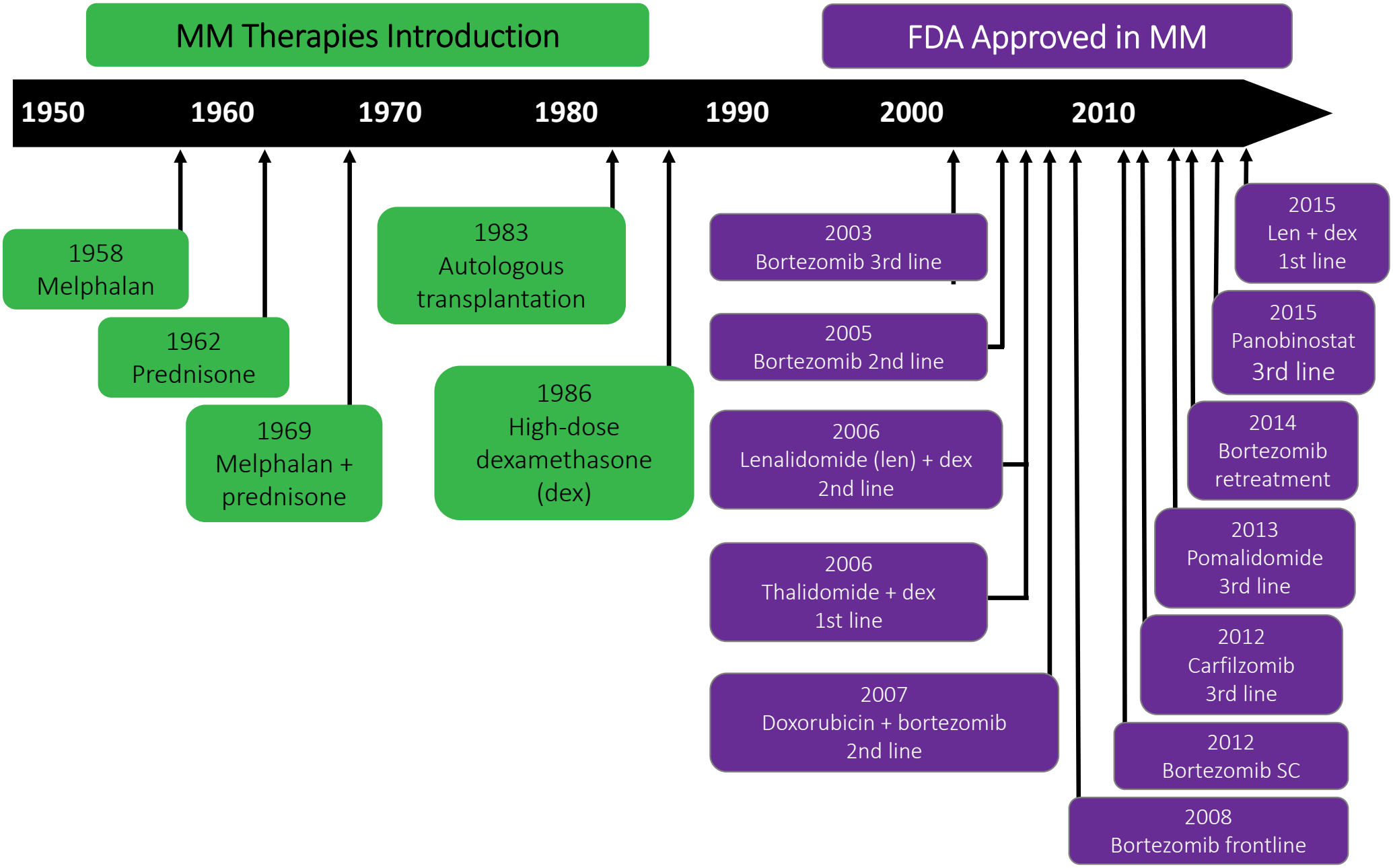


5-Year Survival by Age

	≤ 65 Years	> 65 Years
2006 to 2010	73%	56%
2001 to 2005	63%	31%

Kumar SK, et al. *Leukemia*. 2014 ;28:1122-8

The Expanding MM Therapeutic Armamentarium

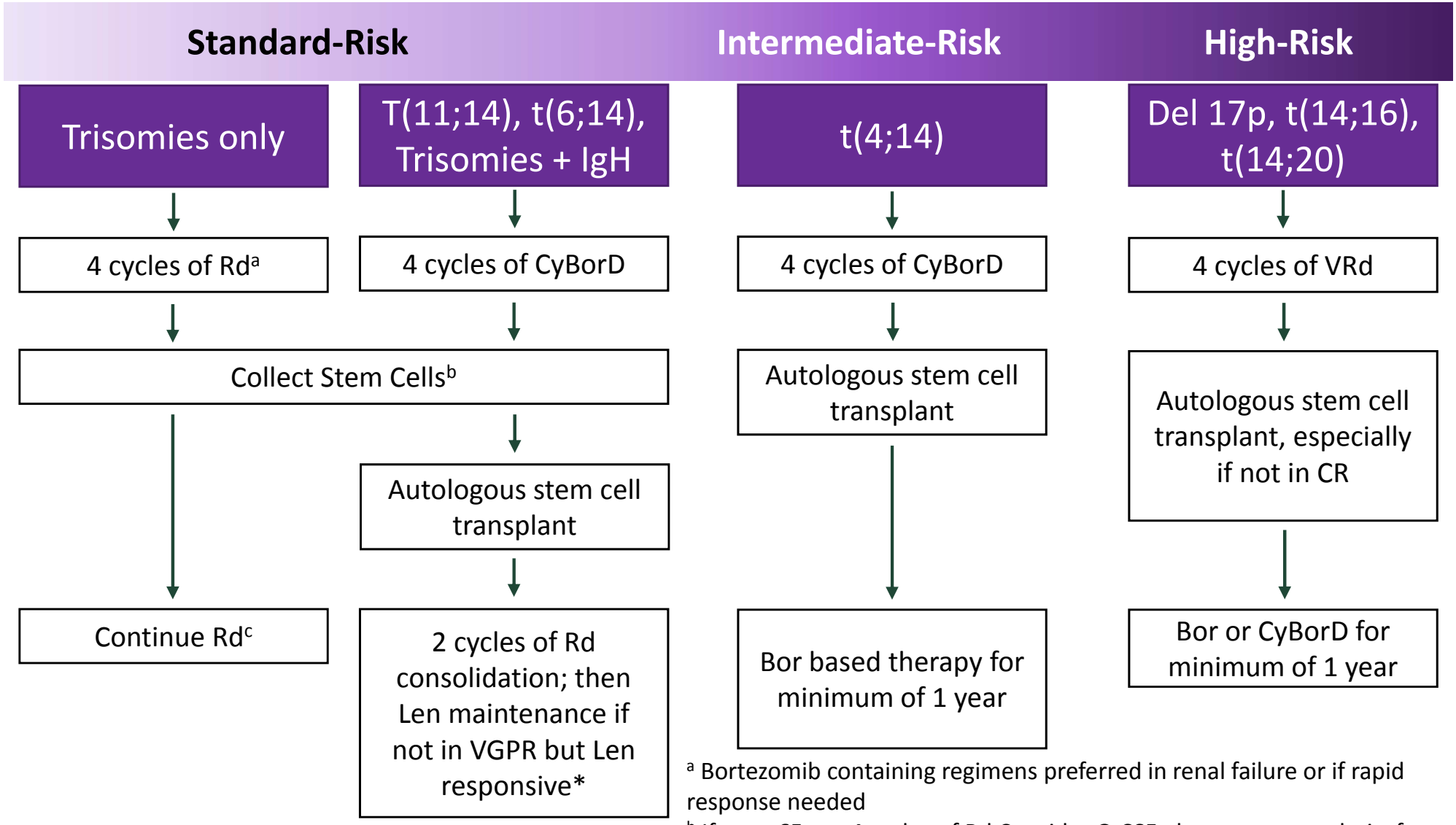


Menu of Therapeutic Options Based on NCCN Guidelines for NDMM

	Preferred Regimens	Other Regimens
Primary Therapy for Transplant Candidates (Assess for response after 2 cycles)	• Bortezomib/dexamethasone (category 1) • Bortezomib/cyclophosphamide/dexamethasone • Bortezomib/doxorubicin/dexamethasone (category 1) • Bortezomib/lenalidomide/dexamethasone • Bortezomib/thalidomide/dexamethasone (category 1) • Lenalidomide/dexamethasone (category 1)	• Carfilzomib/lenalidomide/dexamethasone • Dexamethasone (category 2B) • Liposomal doxorubicin/vincristine/ dexamethasone (DVD) (category 2B) • Thalidomide/dexamethasone (category 2B)
Primary Therapy for Non-Transplant Candidates (Assess for response after 2 cycles)	• Bortezomib/dexamethasone • Lenalidomide/low-dose dexamethasone (category 1) • Melphalan/prednisone/bortezomib (MPB) (category 1) • Melphalan/prednisone/lenalidomide (MPL) (category 1) • Melphalan/prednisone/thalidomide (MPT) (category 1)	• Dexamethasone (category 2B) • Liposomal doxorubicin/vincristine/ dexamethasone (DVD) (category 2B) • Melphalan/prednisone (MP) • Thalidomide/dexamethasone (category 2B) • Vincristine/doxorubicin/dexamethasone (VAD) (category 2B)
Maintenance Therapy	• Bortezomib • Lenalidomide (category 1) • Thalidomide (category 1)	• Bortezomib + prednisone (category 2B) • Bortezomib + thalidomide (category 2B) • Interferon (category 2B) • Steroids (category 2B) • Thalidomide + prednisone (category 2B)

NCCN Clinical Practice Guidelines: Multiple Myeloma. http://www.nccn.org/professionals/physician_gls/f_guidelines.asp#myeloma. Accessed March 24, 2015.

mSMART Guidelines for NDMM: Transplant Eligible



[a] Bortezomib containing regimens preferred in renal failure or if rapid response needed

[b] If age >65 or >4 cycles of Rd Consider G-CSF plus cytoxan or plerixafor

[c] Continuing Rd for patients responding to Rd and with low toxicities; Dex is usually discontinued after first year

* Consider risks and benefits; if used, consider limited duration 12-24 months

Dispenzieri et al. *Mayo Clin Proc*. 2007;82:323-341; Kumar et al. *Mayo Clin Proc.* 2009 84:1095-1110; Mikhael et al. *Mayo Clin Proc.* 2013;88:360-376. v12 //last reviewed March 2014

mSMART Guidelines for NDMM: Transplant Ineligible

Standard-Risk		Intermediate-Risk	High-Risk
Trisomies only	T(11;14), t(6;14), Trisomies + IgH	t(4;14)	Del 17p, t(14;16), t(14;20)
↓	↓	↓	↓
Rd[a,b]	Weekly CyBorD for ~12 months[c]	Weekly CyBorD for ~12 months[c]	VRd* for ~12 months
↓	↓	↓	↓
Until progression[d]	Followed by observation	Bor-based therapy maintenance for minimum of 1 year	Bor as maintenance for minimum of 1 year

[a] In patients treated with Rd, continuing treatment is an option for patients responding well with low toxicities; Dex is usually discontinued after first year

[b] Bortezomib containing regimens preferred in renal failure or if rapid response needed

[c] CyBorD is considered a less toxic variation of VMP; VMP can be used as alternative

[d] Continuing Rd for patients responding to Rd and with low toxicities; Dex is usually discontinued after first year

[*] Clinical trials strongly recommended as the first option

Dispenzieri et al. *Mayo Clin Proc.* 2007;82:323-341; Kumar et al. *Mayo Clin Proc.* 2009 84:1095-1110; Mikhael et al. *Mayo Clin Proc*. 2013;88:360-376. v12 //last reviewed March 2014

mSMART Guidelines for RRMM: First Relapse

Relapsing after Auto Transplant

On Maintenance

- CyBorD if Rev maintenance*; Rd, or KRd if Vel maintenance*

Off-therapy/ Unmaintained

- Rd or CyBorD if standard-risk*; CyBorD or VRd if high risk*

Relapsing after Non Transplant

On Therapy/ Maintenance

- Not Eligible for ASCT
  - CyBorD if Rev maintenance; Rd, or KRd if Vel maintenance
- Transplant Eligible
  - Auto SCT

Off-therapy/ Unmaintained

- Not Eligible for ASCT
  - Repeat first-line Rx if remission off therapy is >12 months; if not, CyBorD if relapsing after ImiD based Rx; otherwise Pom/dex or KRd

* Consider 2nd auto if eligible and >18 months unmaintained or >36 months maintained response to first auto

Dispenzieri et al. *Mayo Clin Proc.* 2007;82:323-341; Kumar et al. *Mayo Clin Proc.* 2009 84:1095-1110; Mikhael et al. *Mayo Clin Proc*. 2013;88:360-376. v12 //last reviewed March 2014. V2 //last reviewed Jan 2015

mSMART Guidelines for RRMM: Second or Later Relapse*

Not Plasma Cell Leukemia (PCL) or Similar extramedullary disease (EMD)

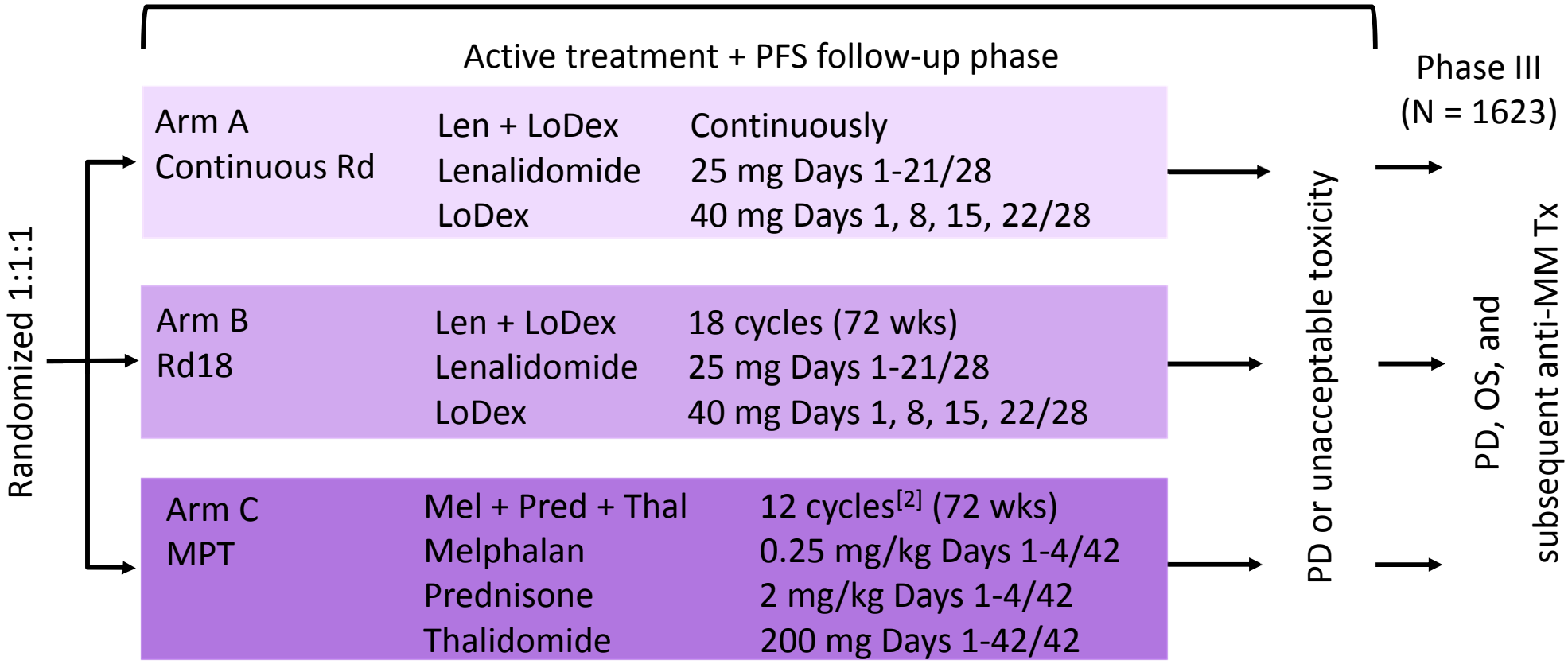
Dual-Refractory (Bortezomib and Lenalidomide)**	Triple-Refractory (Bortezomib, Lenalidomide, and Carfilzomib)**	Triple-Refractory (Bortezomib, Len, and Pomalidomide)**
↓	↓	↓
KRd or Pom/dex to maximum response or 18 months, then Rd	PCD, PVD or Car-Pom-Dex to maximum response or 18 months, then Pom/dex	KRd or Car-Pom-Dex to maximum response or 18 months, then Rd or Pom/dex

*If single refractory, refer to First Relapse algorithm; **Auto transplant is an option, if transplant candidate and feasible; Doublets such as Cyclo-Pred, Pd or Kd could not be considered in patients with indolent disease

Dispenzieri et al. *Mayo Clin Proc.* 2007;82:323-341; Kumar et al. *Mayo Clin Proc.* 2009 84:1095-1110; Mikhael et al. *Mayo Clin Proc*. 2013;88:360-376. v12 //last reviewed March 2014. V2 //last reviewed Jan 2015

Emerging Regimens and Indications

FIRST Trial: Lenalidomide/Dexamethasone vs MPT in NDMM SCT-Ineligible Patients

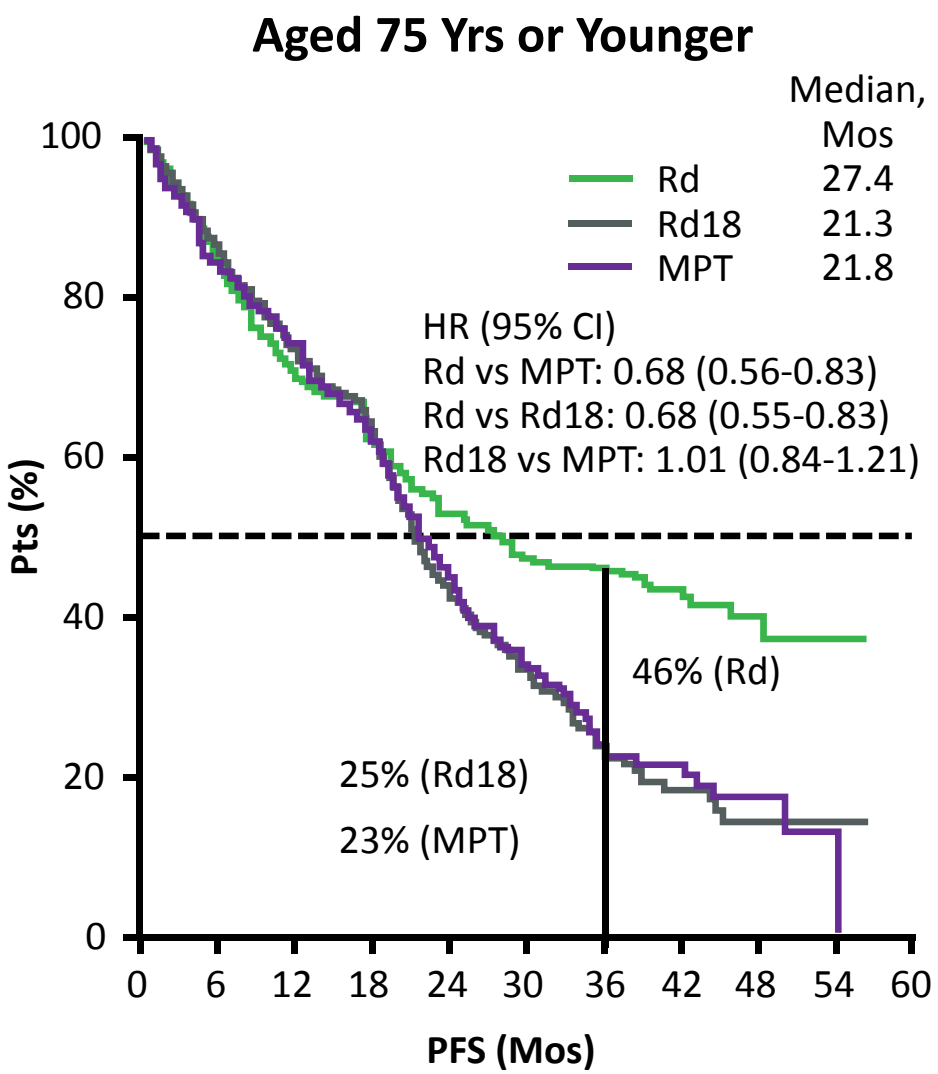


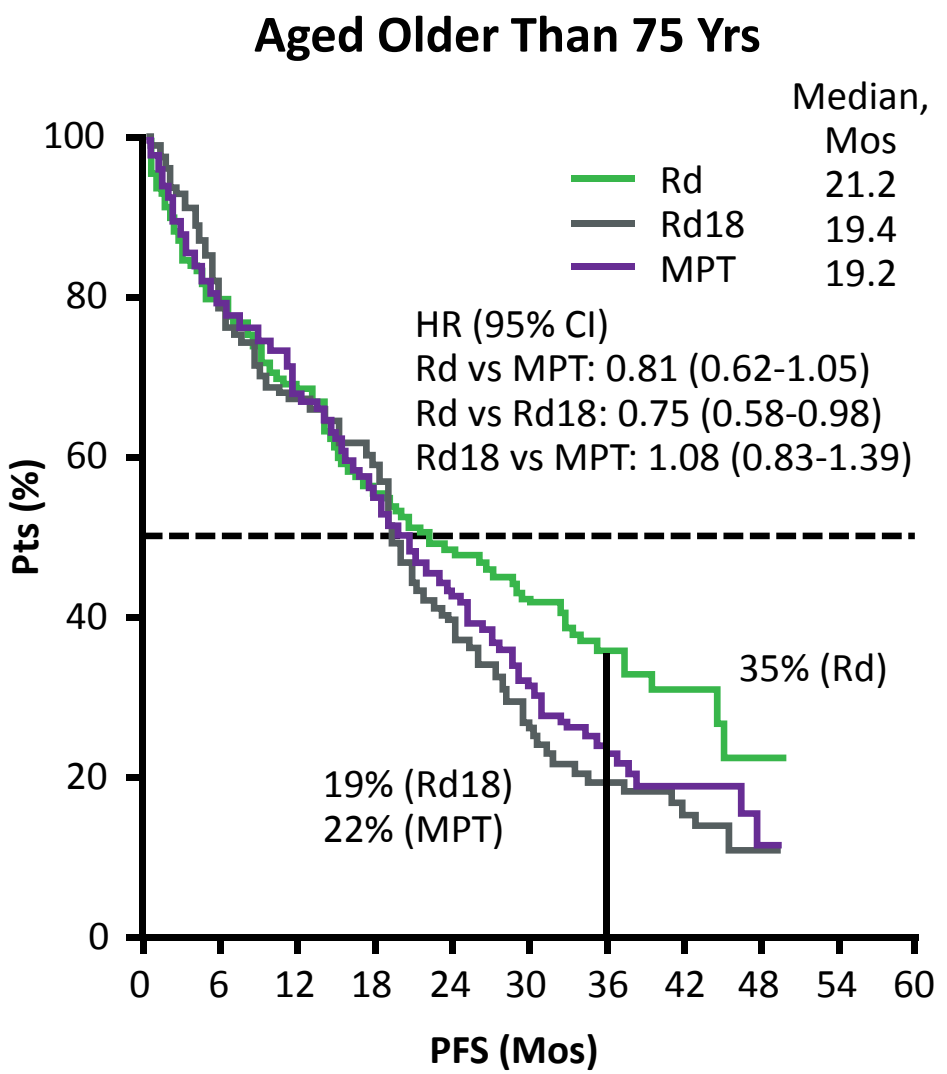
Pts > 75 yrs: LoDex 20 mg Days 1, 8, 15, 22/28; Thal 100 mg Days 1-42/42; Mel 0.2 mg/kg Days 1-4. Stratification: age, country, and ISS stage.

MPT= MPT=melphalan, prednisone, and thalidomide; NDMM=newly diagnosed with multiple myeloma; STC=stem cell transplant; PFS=progression-free survival; Len=lenalidomide; LoDex=low-dose dexamethasone; Mel=melphalan; Pred=prednisone; Thal=thalidomide; OS=overall survival; ISS=international staging system.

1. Hulin C, et al. ASH 2014. Abstract 81. 2. Facon T, et al. *Lancet*. 2007;370:1209-1218.
3. Hulin C, et al. *J Clin Oncol*. 2009;27:3664-3670. 4. Benboubker L, et al. *N Engl J Med*. 2014;371:906-917.

FIRST Trial: PFS by Age Stratification



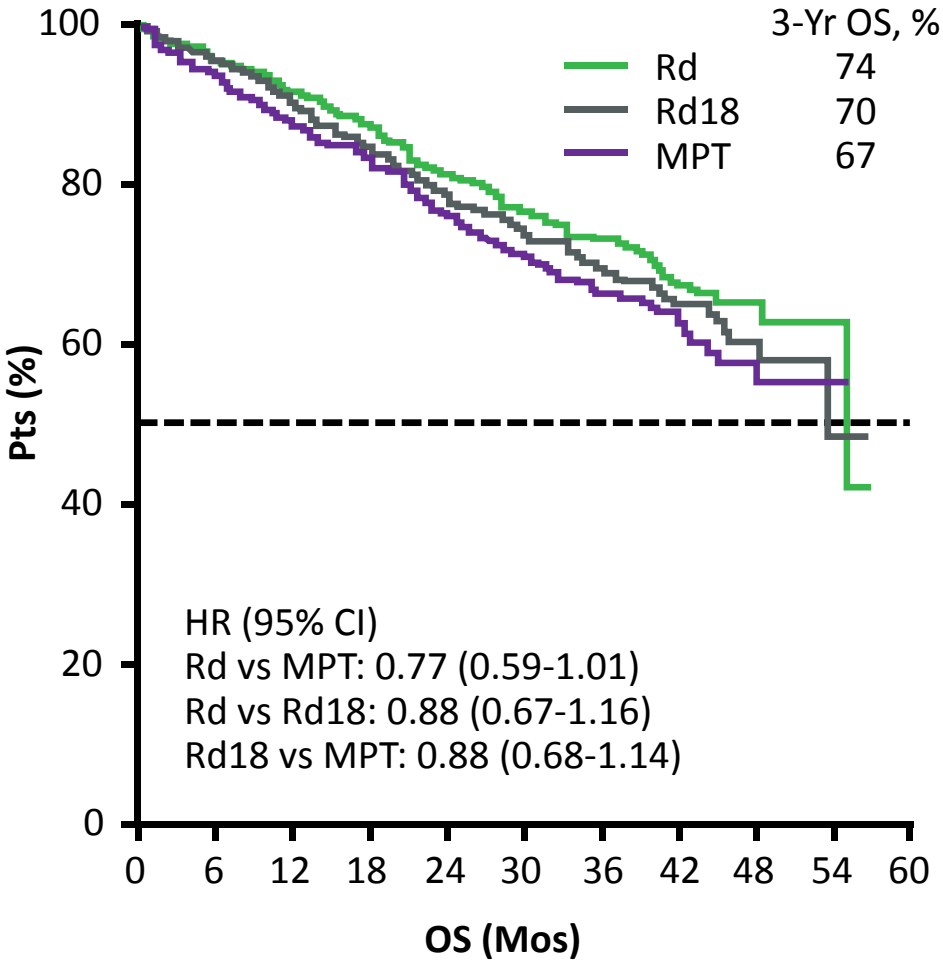


Hulin C, et al. ASH 2014. Abstract 81.

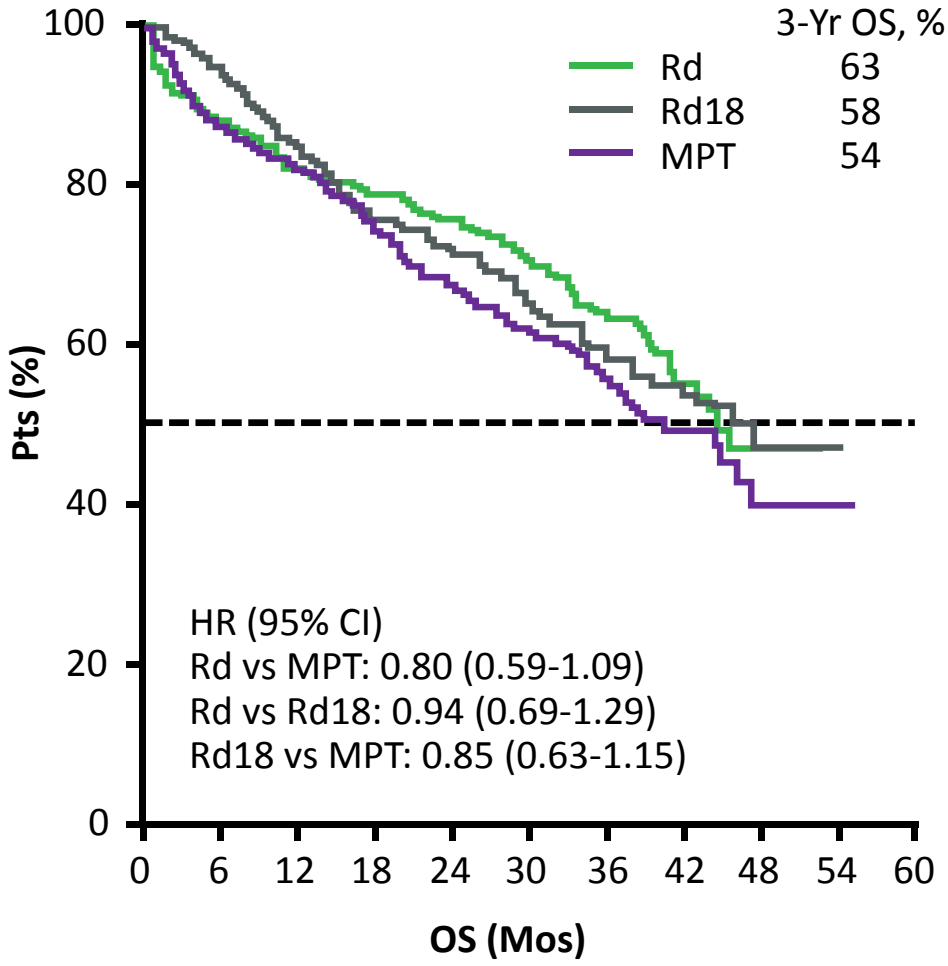
PFS=progression-free survival; Rd=continuous lenalidomide plus low-dose dexamethasone; Rd18=18 cycles of Rd; MPT=melphalan, prednisone, and thalidomide.

FIRST Trial: OS by Age Stratification

Aged 75 Yrs or Younger



Aged Older Than 75 Yrs



OS=overall survival; Rd=continuous lenalidomide plus low-dose dexamethasone; Rd18=18 cycles of Rd; MPT=melphalan, prednisone, and thalidomide.

Hulin C, et al. ASH 2014. Abstract 81. Reproduced with permission.

ASPIRE: Phase III Trial Comparing Len/Dex ± Carfilzomib in R/R MM

- Randomized, open-label, multicenter phase III trial

Stratified by β_2-microglobulin, prior bortezomib, and prior lenalidomide

Patients with symptomatic R/R MM after 1-3 prior treatments with ≥ PR to ≥ 1 prior regimen (N = 792)

KRd* (n = 396)
Carfilzomib 27 mg/m^2 IV
Days 1, 2, 8, 9, 15, 16 (20 mg/m^2 Days 1, 2, Cycle 1 only)
Lenalidomide 25 mg Days 1-21
Dexamethasone 40 mg Days 1, 8, 15, 22

28 day cycles

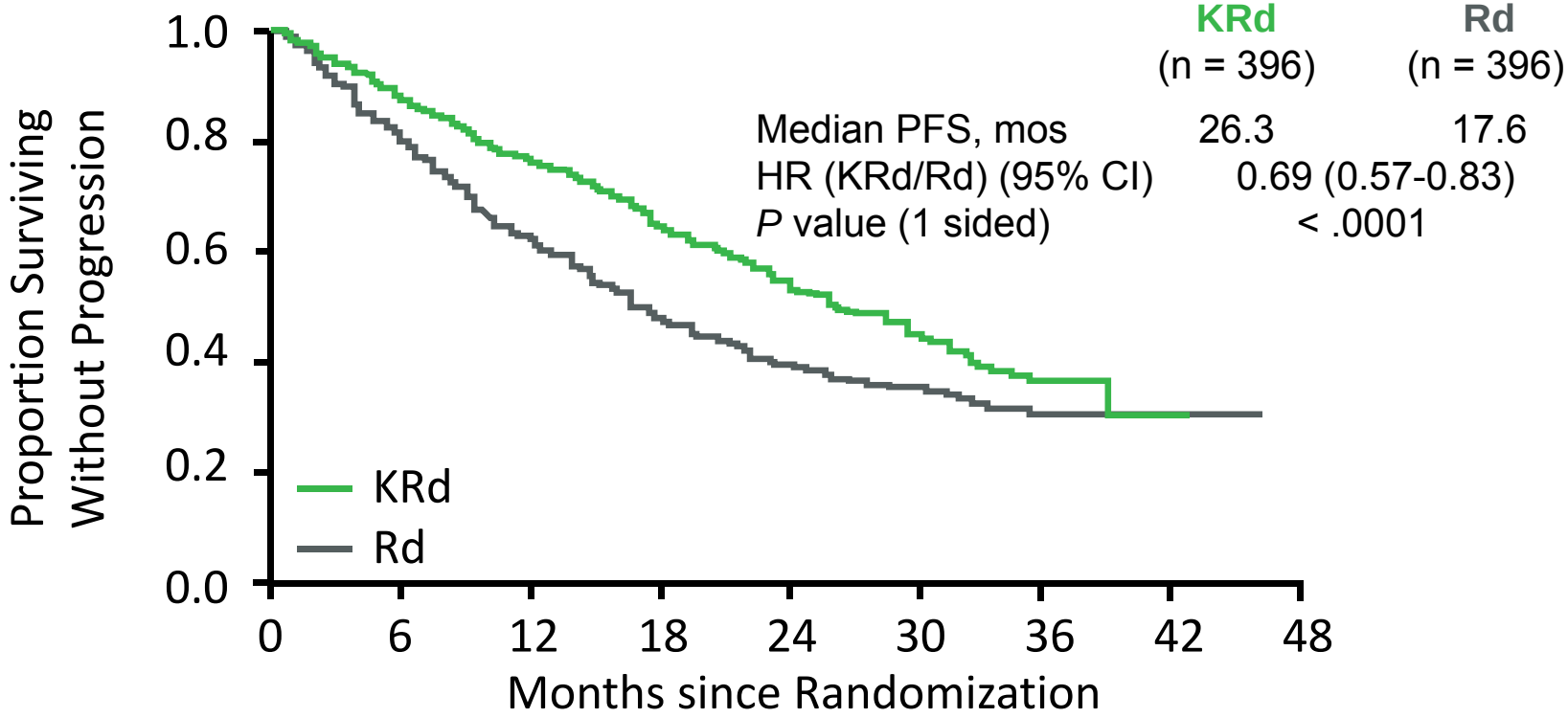
Rd (n = 396)
Lenalidomide 25 mg Days 1-21
Dexamethasone 40 mg Days 1, 8, 15, 22

*After cycle 12, carfilzomib given on Days 1, 2, 15, 16. After cycle 18, carfilzomib discontinued.

Stewart AK, et al. ASH 2014. Abstract 79.

Len/Dex=lenalidomide + dexamethasone; R/R MM= relapsed/refractory multiple myeloma.

ASPIRE: PFS in ITT Population (Primary Endpoint)



Risk Group by FISH	KRd (n = 396)		Rd (n = 396)		HR	P Value
	n	Median PFS, Mos	n	Median PFS, Mos		
High	48	23.1	52	13.9	0.70	.083
Standard	147	29.6	170	19.5	0.66	.004

PFS=progression-free survival; ITT=intention-to-treat; KRd=carfilzomib, lenalidomide, dexamethasone; Rd=continuous lenalidomide plus low-dose dexamethasone; FISH=flourescence in situ hybridization.

Stewart AK, et al. ASH 2014. Abstract 79. Reproduced with permission.

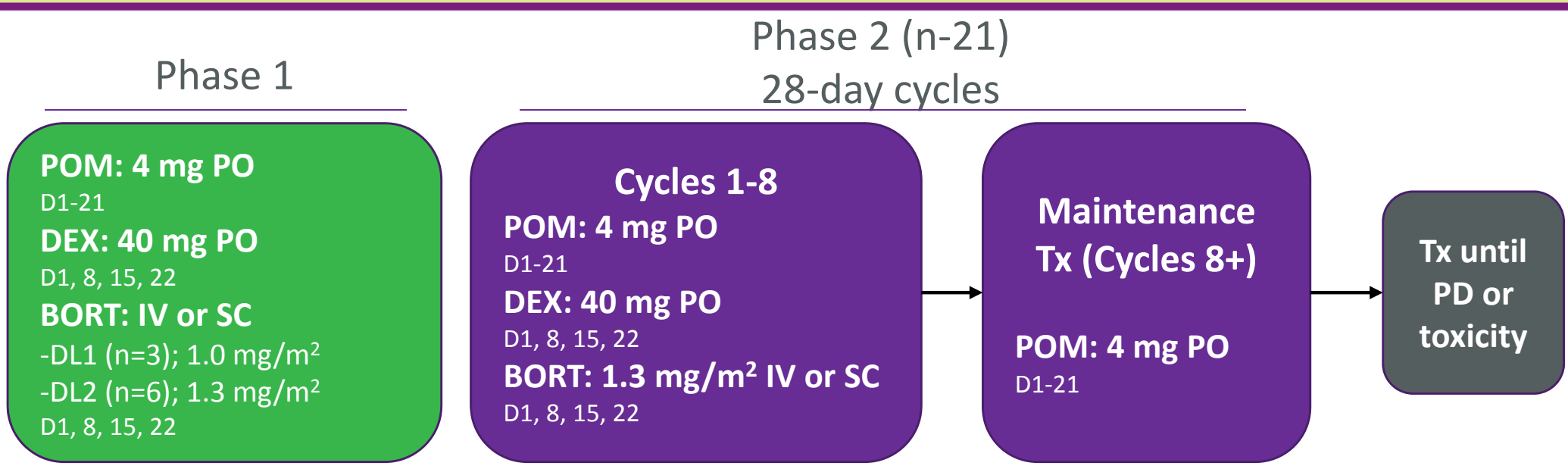
ASPIRE: Grade ≥3 Toxicity

Adverse Event	KRd (%)	Rd (%)
Diarrhea	3.8	4.1
Fatigue	7.7	6.4
Pyrexia	1.8	0.5
URI	1.8	1.0
Hypokalemia	9.4	4.9
Muscle spasms	1.0	0.8
Dyspnea	2.8	1.8
Hypertension	4.3	1.8
Acute renal failure	3.3	3.1
Cardiac failure	3.8	1.8
Ischemic heart disease	3.3	2.1

Stewart AK, et al. ASH 2014. Abstract 79.

KRd=carfilzomib, lenalidomide, dexamethasone; Rd=continuous lenalidomide plus low-dose dexamethasone.

Pomalidomide/Bortezomib/Dexamethasone for Lenalidomide Refractory MM



Phase I/II trial to determine MTD; assess safety and efficacy of pomalidomide/bortezomib/dexamethasone

Relapsed MM who had 1-4 previous lines of therapy and were resistant/refractory to lenalidomide

Aspirin or full dose anticoagulant given to all pts for thromboprophylaxis

Accrual: 50 pts (phase I: 3 at dose level 1, 6 at dose level 2; phase II: 41)

[a]Registered with clinicaltrails.gov as NCT01212952.

BORT=bortezomib; D=day; DEX=dexamethasone; DL=dose level; IV=intravenous; IMWG=International Myeloma Working Group; PD=progressive disease; PO=orally; POM=pomalidomide; pts=patients; PVD=pomalidomide, bortezomib, and dexamethasone; RRMM=relapsed and refractory multiple myeloma; SC=subcutaneous; Tx=treatment.

Lacy, MQ et al. ASH 2014, abstract #304

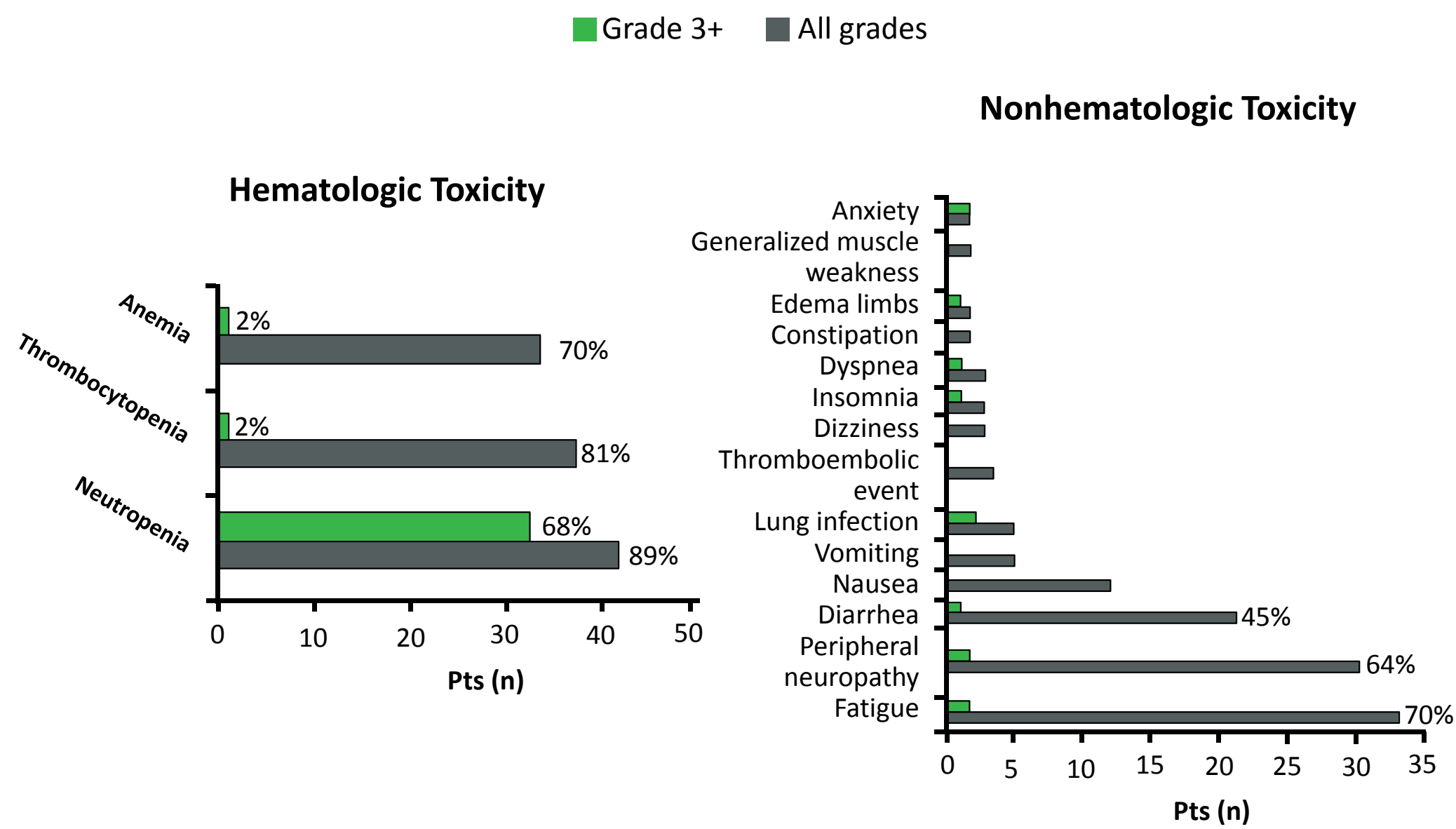
Pomalidomide/Bortezomib/Dexamethasone: Summary of Efficacy

Outcome	Pts Treated at MTD (N = 47)	Standard-Risk Pts (n = 28)	Intermediate/ High-Risk Pts (n = 19)
Response, n (%)			
▪ ORR	40 (85)	24 (86)	16 (84)
▪ sCR	3 (6)		
▪ CR	6 (13)		
▪ VGPR	12 (26)		
▪ PR	19 (40)		
Median OS, months	NR	NR	NR
▪ Event free at 6 mos, %	100	100	100
▪ Event free at 12 mos, %	94	95	92
Median PFS, mos (95% CI)	10.7 (9.4-18.5)	16.3	9.5
Median DoR, mos (95% CI)	13.7 (8.5-16.8)		

MTD=maximum tolerated dose; ORR=overall response rate; sCR=stringent complete response; CR=complete response; VGPR=very good partial response; PR=partial response; OS=overall survival; PFS=progression-free survival; DoR=duration of response; NR=no response.

Lacy MQ, et al. ASH 2014. Abstract 304.

Pomalidomide/Bortezomib/Dexamethasone: Summary of Adverse Events



Lacy MQ, et al. ASH 2014. Abstract 304. Reproduced with permission.

PANORAMA-1: Panobinostat in RRMM

N=768

Eligibility

Relapsed/refractory MM

1-3 prior lines of therapy

Prior BTZ therapy allowed

BTZ-refractory MM (failure to achieve minimal response or disease progression within 60 days of last BTZ-containing regimen) not permitted

Randomization

Treatment phase 1
BTZ twice wkly

Treatment phase 2
BTZ once wkly

Panobinostat + BTZ + DEX
3-wk cycles x 8

n=387

Clinical benefit

Panobinostat + BTZ + DEX
6-wk cycles x 4

Placebo+ BTZ + DEX

n=381

Subgroup Analysis of Pts Previously treated with BTZ and an IMiD

Panobinostat + BTZ + DEX

n=94

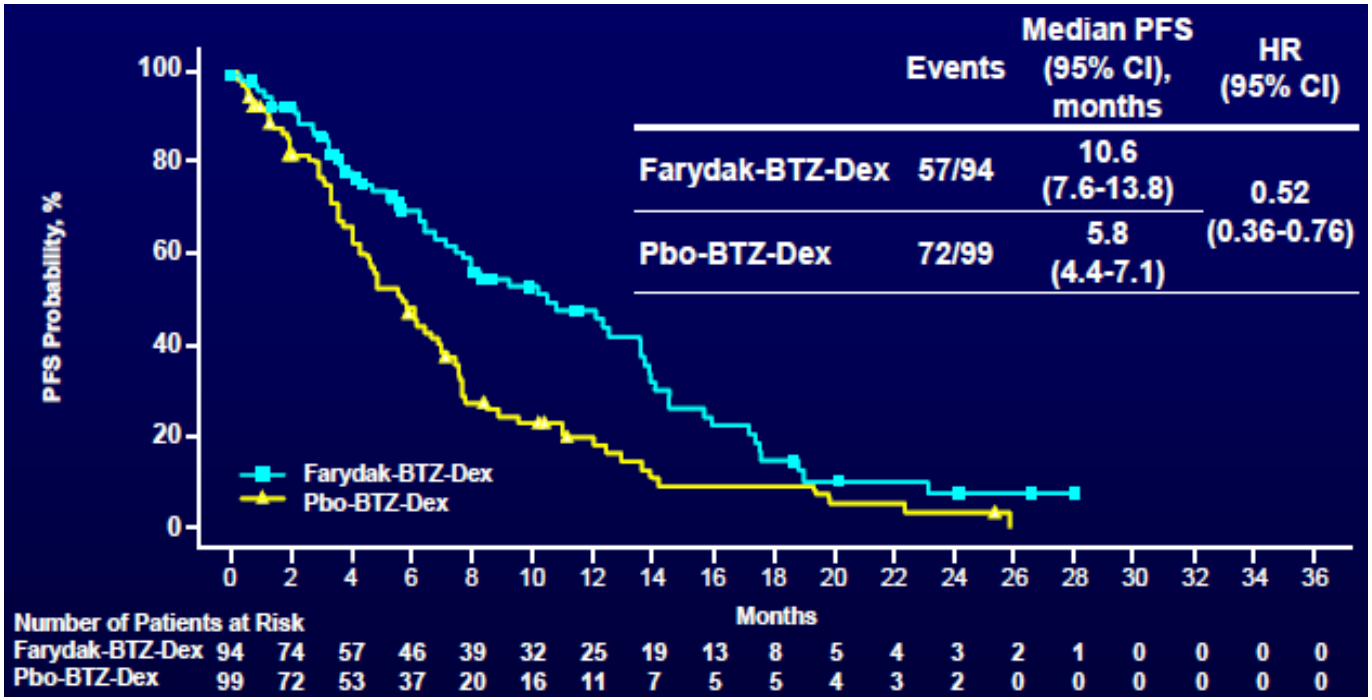
Placebo+ BTZ + DEX

n=99

RRMM=relapsed refractory multiple myeloma; BTZ=bortezomib; DEX=dexamethasone; IMiD=immunomodulatory drug

Richardson et al. Abstract 8510. Presented at ASCO 2014.

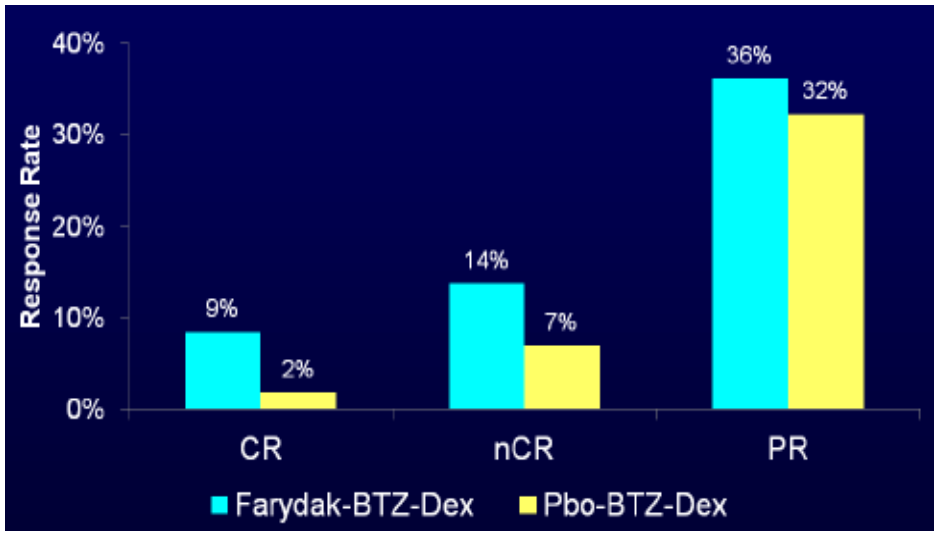
PANORAMA-1: Subgroup Analysis



	Events	Median PFS (95% CI), months	HR (95% CI)
Farydak-BTZ-Dex	57/94	10.6 (7.6-13.8)	0.52 (0.36-0.76)
Pbo-BTZ-Dex	72/99	5.8 (4.4-7.1)	

- The PFS hazard ratio for this subgroup of patients was lower than the PFS hazard ratio for the overall patient population

- The panobinostat arm featured an improved ORR (58.5%; 95% CI, 47.9%-68.6%) than those in the placebo arm (41.4%, 95% CI, 31.6%-51.8%)



PFS=progression-free survival; ORR=overall response rate

Farydak (panobinostat) [package insert]. East Hanover, NJ: Novartis Pharmaceuticals Corporation; 2015.

PANORAMA-1: Adverse Events

- Adverse events (AEs) led to discontinuation in 36% of patients PVd arm and 20% in the Vd arm
- Common grade 3/4 lab abnormalities and AEs (regardless of study drug relationship) in the PVd vs Vd arms included:

	PVd	Vd
Thrombocytopenia	67%	31%
Neutropenia	35%	11%
Diarrhea	26%	8%

- On-treatment deaths occurred in 8% of PVd and 5% of Vd patients

Richardson et al. Abstract 8510. Presented at ASCO 2014.

Monoclonal Antibodies Represent a Potential New Class of Agents in the Treatment of MM

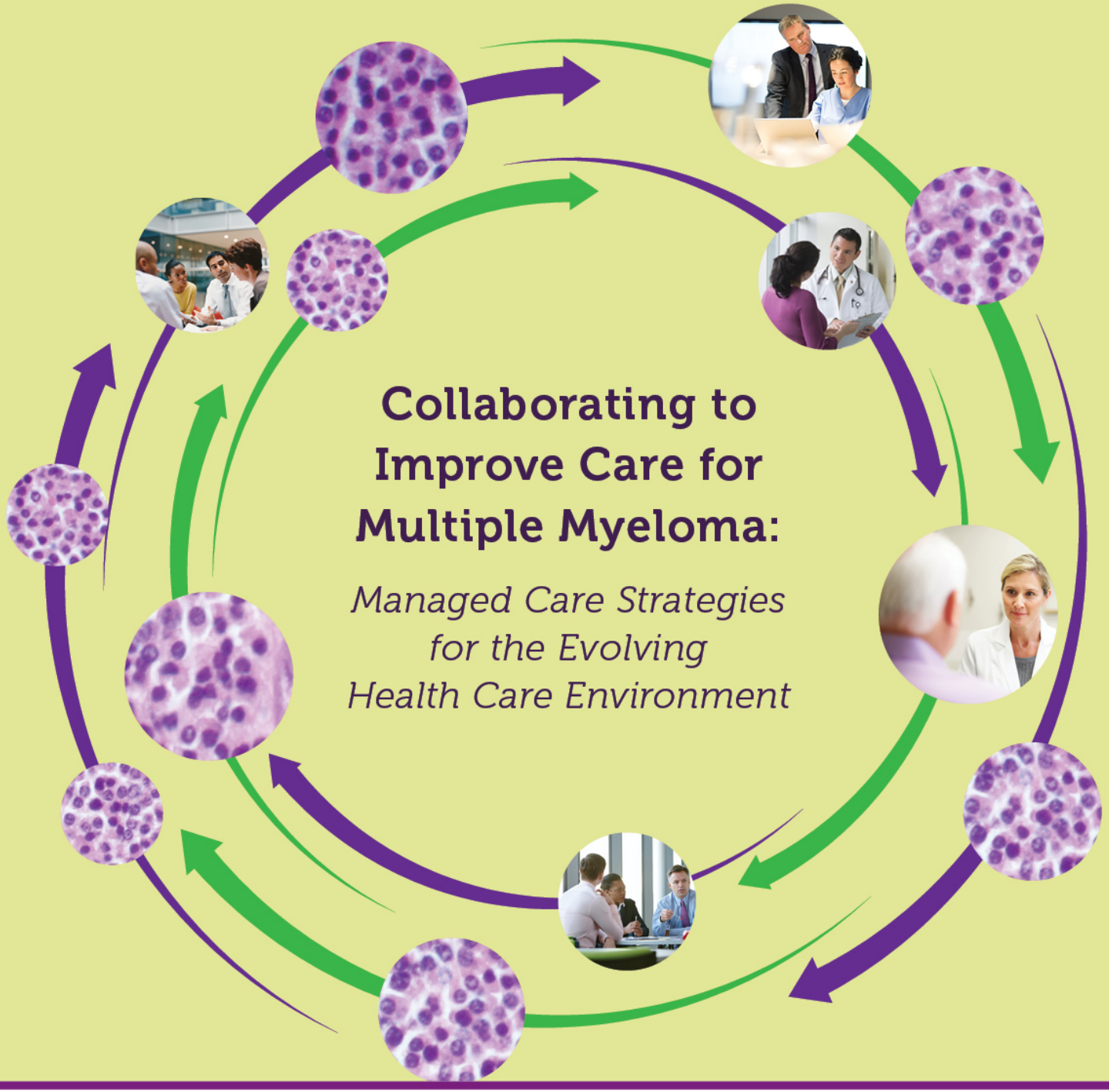
Agent	Type/target	Proposed Indication	Stage of development
Daratumumab	Anti-CD38	NDMM, RRMM	Phase 3
SAR650984	Anti-CD38	RRMM	Phase 2 alone and in combination with len/dex
Elotuzumab	CS1, SLAM7F	sMM, NDMM, RRMM	BTD; Phase 3 alone and in combination with len/dex
Indatuximab ravtansine	Chemotherapy conjugated anti-CD138	RRMM	Phase 2 with len/dex and pom/dex

NDMM=newly diagnosed multiple myeloma; RRMM=relapsed/refractory multiple myeloma; len=lenalidomide; dex=dexamethasone; pom=pomalidamide; BTD=breakthrough therapy designation

Evolution of Treatment Sequence in MM

	Induction	Consolidation	Post Consolidation	Rescue
Modern	VRD CyBorD Rev/Dex VD VTD Thal/Dex	SCT VD/VRD	Bortezomib? Lenalidomide? Thalidomide?	Bortezomib Lenalidomide Carfilzomib KRd Pomalidomide Panobinostat Thalidomide *Monoclonal Ab (CD38)* *Elotuzumab* *Bendamustine*
	Initial treatment		**Maintenance**	**Upon Relapse**
Historical	VAD DEX	SCT	Prednisone Thalidomide	Cytotoxic chemo

Thal=thalidomide; Dex=dexamethasone; VD=velcade+dexamethasone; Rev=revlimid; CyBorD=cyclophosphamide+bortezomib+dexamethasone; VTD=velcade+thalidomide+dexamethasone; VRD=bortezomib+lenalidomide+dexamethasone; SCT=stem cell transplant



Collaborating to Improve Care for Multiple Myeloma:

Managed Care Strategies for the Evolving Health Care Environment

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This activity is supported by independent educational grants from Celgene Corporation and Takeda Oncology.

Designing and Implementing Clinical Pathways Initiatives to Reduce Treatment Variability and Improve Outcomes in Multiple Myeloma

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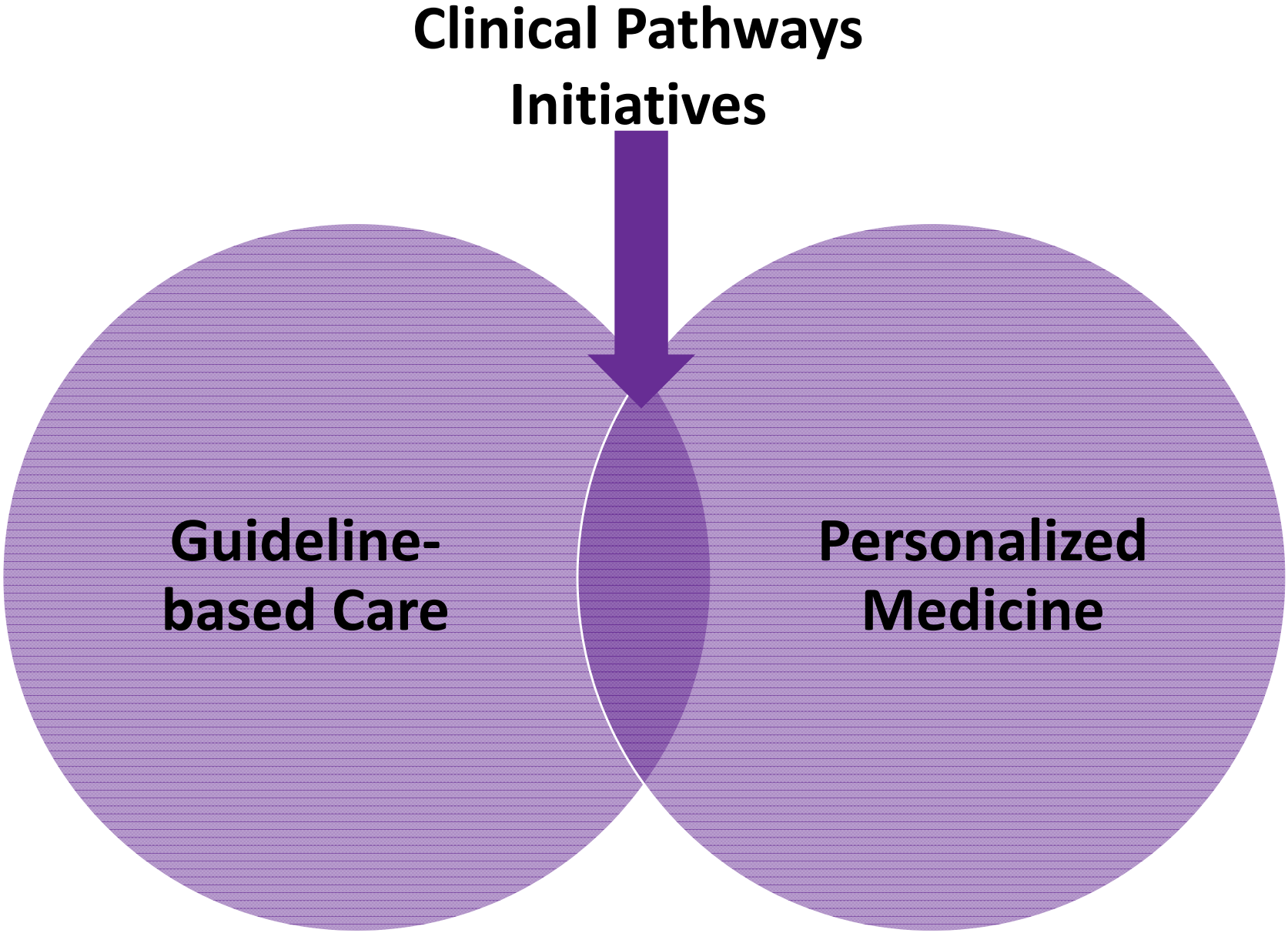
Faculty Disclosure

- The ***faculty*** reported the following financial relationships or relationships to products or devices they or their spouse/life partner have with commercial interests related to the content of this CME activity:

  David Frame, PharmD

  - *Consulting Fees:* Celgene Corporation, Takeda Oncology
  - *Honoraria*: Celgene Corporation, Takeda Oncology

Clinical Pathways Initiatives Aim to Reduce Treatment Variability While Allowing Individualized Care in Oncology



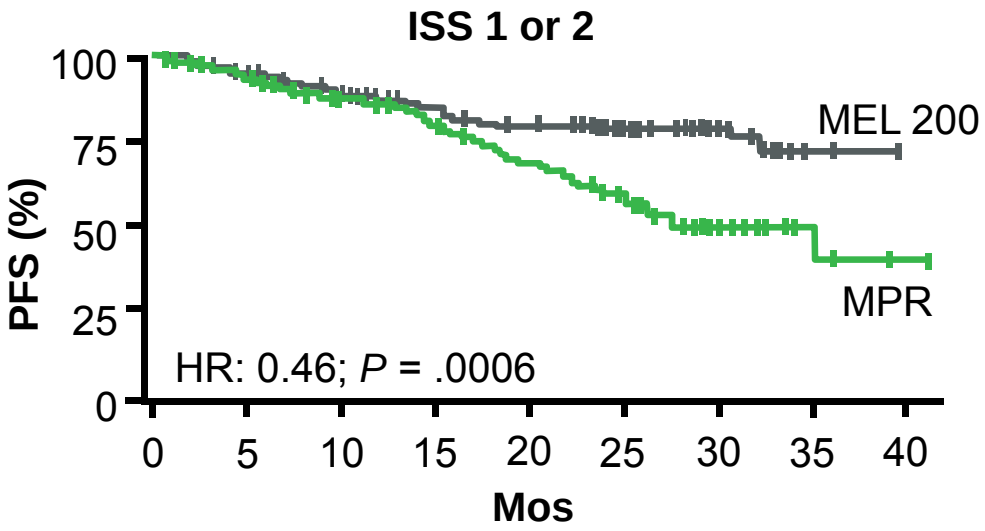
Pathways-based Initiatives Vary in Scope and Implementation But Share Several Key Characteristics

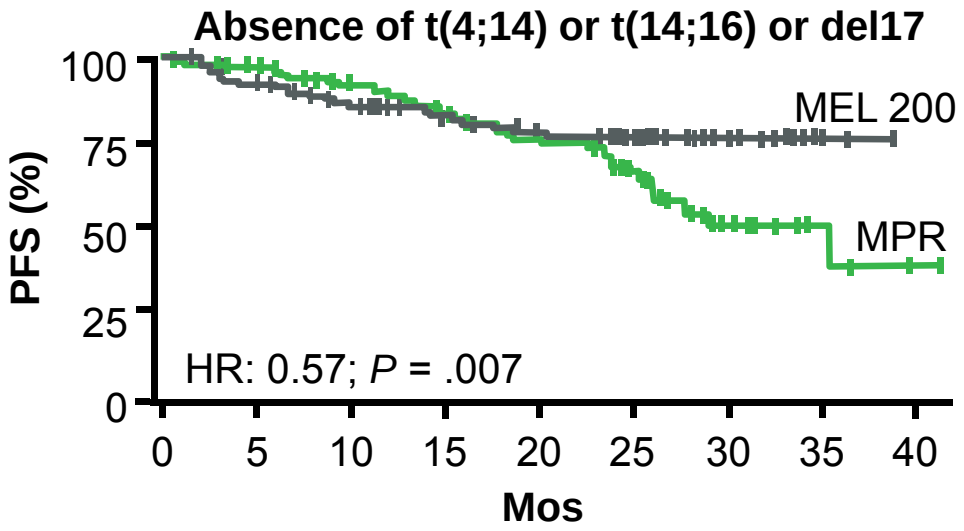
Clinical pathways initiatives…

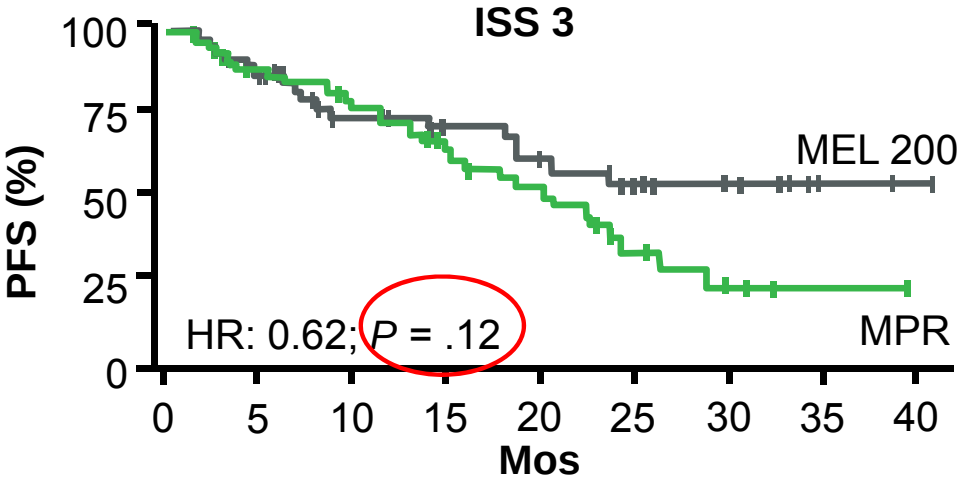
- …use clinical trial and other evidence-based data to guide rational therapeutic decisions
- …offer formal structural elements to guide decisions
- …are often primarily derived from National Comprehensive Cancer Network (NCCN) guidelines
- …allow for coordination with appropriate clinical trials (prospective) and real-world prospective clinical trials
- …can improve quality of care and coordination within a health care system as well as decrease overutilization

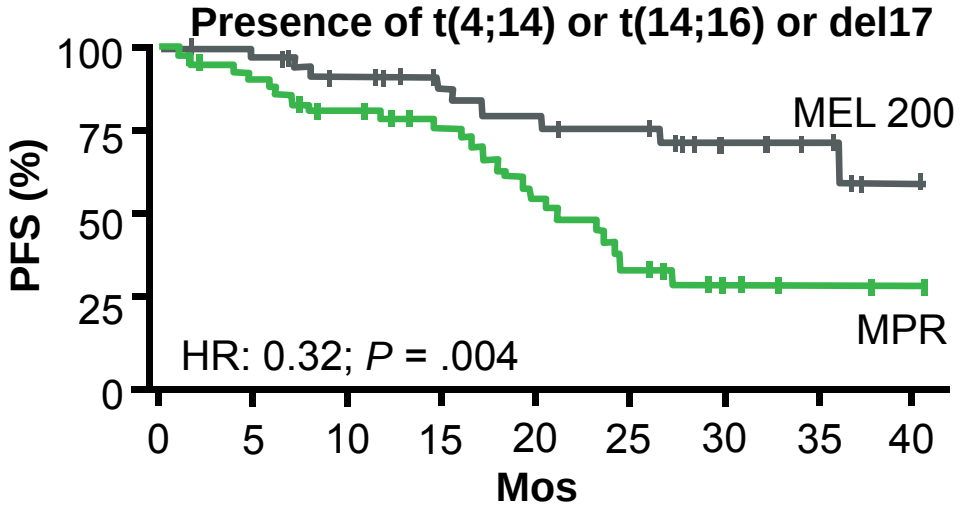
Could Pathways be Developed for Transplant Based on Specific Features?

MPR vs High-Dose MEL 200: PFS by ISS and Cytogenetic Subgroups









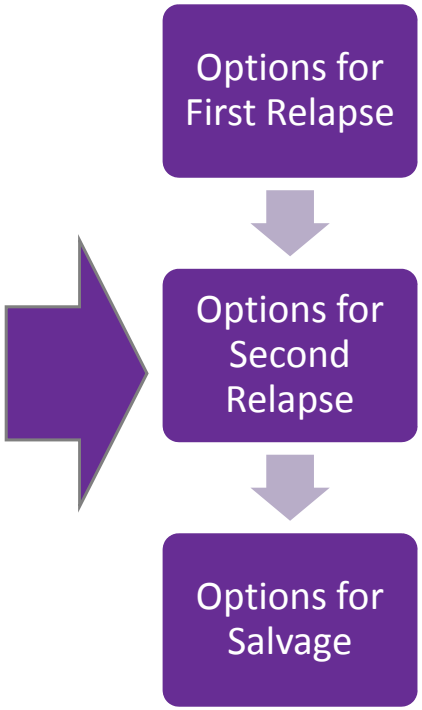
Palumbo A, et al. ASH 2011. Abstract 3069.

MPR=melphalan+prednisone+lenalidomide; MEL=melphalan; PFS=progression-free survival; ISS=International Staging System.

Pathways Initiatives Condense an Expansive Menu of Clinical Options into a More Concise Stepwise Process

Example: Relapsed Refractory Multiple Myeloma

	Preferred Regimens	Other Regimens
Therapy for Previously Treated Multiple Myeloma	• Repeat primary induction therapy (if relapse at >6 mo) • Bortezomib (category 1) • Bortezomib/dexamethasone • Bortezomib/lenalidomide/dexamethasone • Bortezomib/liposomal doxorubicin (category 1) • Bortezomib/thalidomide/dexamethasone • Carfilzomib • Cyclophosphamide/bortezomib/dexamethasone • Cyclophosphamide/lenalidomide/dexamethasone • Dexamethasone/cyclophosphamide/etoposide/cisplatin (DCEP) • Dexamethasone/thalidomide/cisplatin/doxorubicin/cyclophosphamide/etopside (DT-PACE) ± bortezomib (VTD-PACE) • High-dose cyclophosphamide • Lenalidomide/dexamethasone (category 1) • Pomalidomide/dexamethasone • Thalidomide/dexamethasone	• Bendamustine • Bortezomib/vorinostat • Lenalidomide/bendamustine/dexamethasone



Theoretical Considerations for First Relapse

First Line Therapy

RVD → CR → **Options for First Relapse**

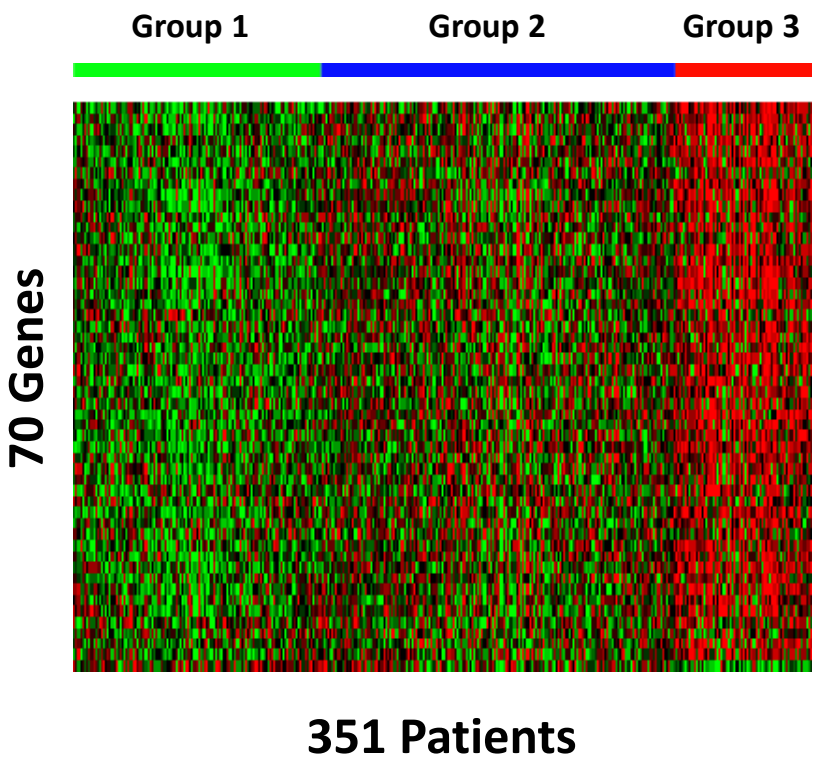
- < 6 months → **Pomalidomide OR Pomalidomide/Carfilzomib**
- > 6 months → **Pomalidomide OR Carfilzomib OR ? Carfilzomib/Pomalidomide**

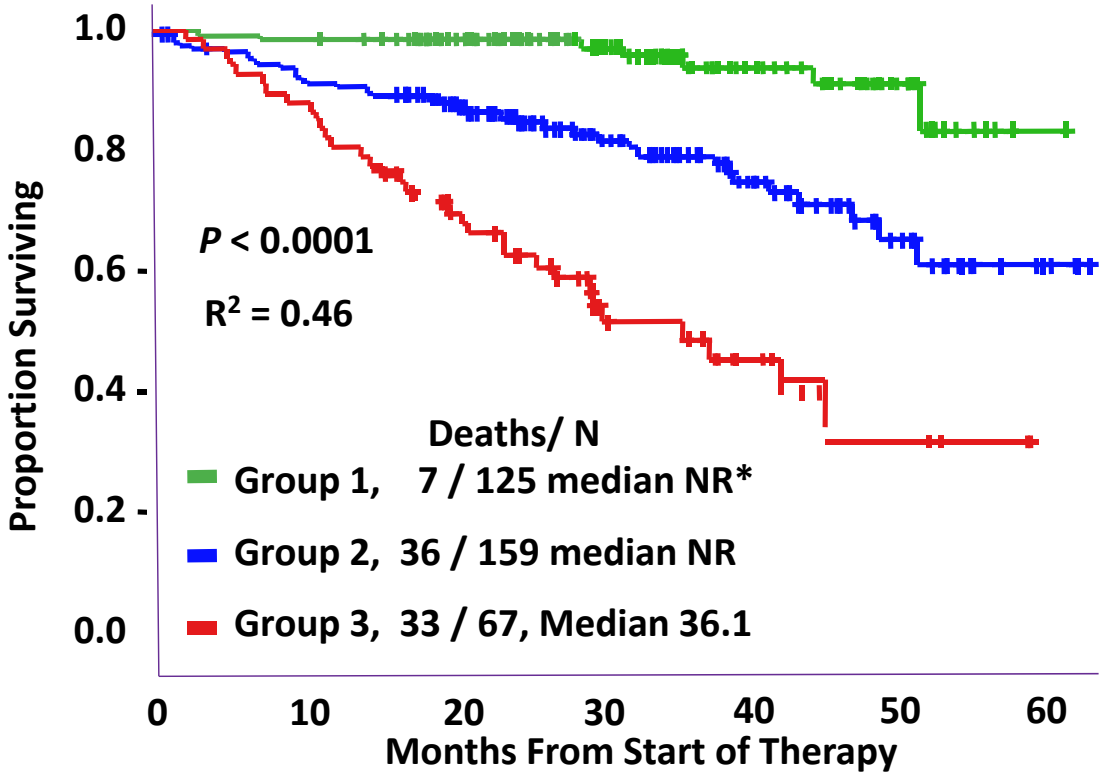
CyBorD → CR → **Options for First Relapse**

- → **Pomalidomide OR Pomalidomide/Carfilzomib**

RVD=revlimid+bortezomib+dexamethasone; CR=complete response;
CyBorD=cyclophosphamide+bortezomib+dexamethasone.

Will Pathways be Able to Utilize Personalized Treatment Plans?





*NR= Not Reached

Overall survival of MM patients from the start of therapy based on 70 highly overexpressed or underexpressed genes distinguished 3 groups of patients: good, intermediate, or poor prognosis

Shaughnessy JD et al. *Blood*. 2007;109:2276-2284.

Pathways Programs May Guide Diagnosis, Surveillance, and Supportive Care in Addition to Active Treatment

Other Examples…

- Initial diagnosis of localized/regional colon cancer:
  - Baseline CEA
  - CT A/P, chest X ray, no PET scans
  - Endoscopic rectal ultrasound for rectal cancers
  - FOLFOX or 5FU/LV for node-positive patients for 6 months
- HER2+ node-positive breast cancer with curative intent:
  - Taxotere + carboplatin + Herceptin
  - Adriamycin + Cytoxan → Taxol + Herceptin
- Surveillance of breast cancer patients in remission:
  - History, physical, breast exam
  - Breast imaging
  - No tumor markers or imaging
- Diffuse large cell lymphoma:
  - R-CHOP
  - Oral ondansetron for 3 days
  - No cycle 1 growth factors if less than 60 years old
  - Baseline echocardiogram
  - Bone marrow biopsy, PET scan, LDH, CBC, CM

Pathways Programs May Guide Diagnosis, Surveillance, and Supportive Care in Addition to Active Treatment

BISPHOSPHONATES

Have demonstrated increased survival and decreased bone complications

Medicare costs for bone disease is $25,000

- May significantly save cost by preventing complications

Increased risk of osteonecrosis of the jaw

- Zolendronic acid vs pamidronate?
- Limit use to 18-24 months?
- Could you decrease interval if disease controlled?
- Mandate dental exam BEFORE starting therapy

Schulman KL, et al. *Cancer.* 2007;109:2334-42.
Kyle RA, et al. *J Clin Oncol*. 2007;25:2464-2472.
Terpos E, et al. *Blood*. 2013;121:3325-3328.

Pathways Programs May Guide Diagnosis, Surveillance, and Supportive Care in Addition to Active Treatment

- Preventing Thrombotic Complications
  - Rates of deep vein thrombosis (DVT) as high as 25% reported with immunomodulatory drugs (IMiDs) and dexamethasone
  - Costs of Treating DVT > $13,000

	Aspirin (n=220)	Warfarin (n=220)	Enoxaparin (n=219)
First 6 months	6.4%	8.2%	5.0%
Entire follow-up	8.6%	10.0%	7.8%

Hull RD, *Thromb Haemost*. 1995;74:189-196.
Palumbo A, et al. *J Clin Oncol.* 2011;29(8):986-993.

End-of-Life Represents Another Key Area for Pathway Development

- A recent survey by a third-party pathways developer indicated that 32% of oncology treatment plans do not meet evidence-based standards[1]
- Variation in cancer care received by Medicare beneficiaries has been observed across several areas, with end-of-life care being a notable area of discordance:[2]
  - Use of chemotherapy in the last 2 weeks of life was observed in 6% of cancer patients. In some regions and academic medical centers, this rate was more than 10%
  - Use of hospice care varied markedly across regions and hospitals:
    - 61% of patients were referred to hospice in the last month of life
    - 25% of patients died in the hospital
    - 11% of patients received a referral to hospice within 3 days of their eventual death; it is unlikely that significant benefit was derived

1. Eviti®. Oncology Decision Support and Treatment Preauthorization. http://www.eviti.com/cancer_care/solutions/. Accessed March 19, 2015.
2. Goodman DC, et al. Dartmouth Atlas of Health Care Brief. "Trends in Cancer Care Near the End of Life." September 2013.

Clinicians and Administrators are Largely Supportive of Guideline-based Decision-support Tools

In a survey of community cancer center stakeholders, the following ranked highest among effective practices that improve care in MM:

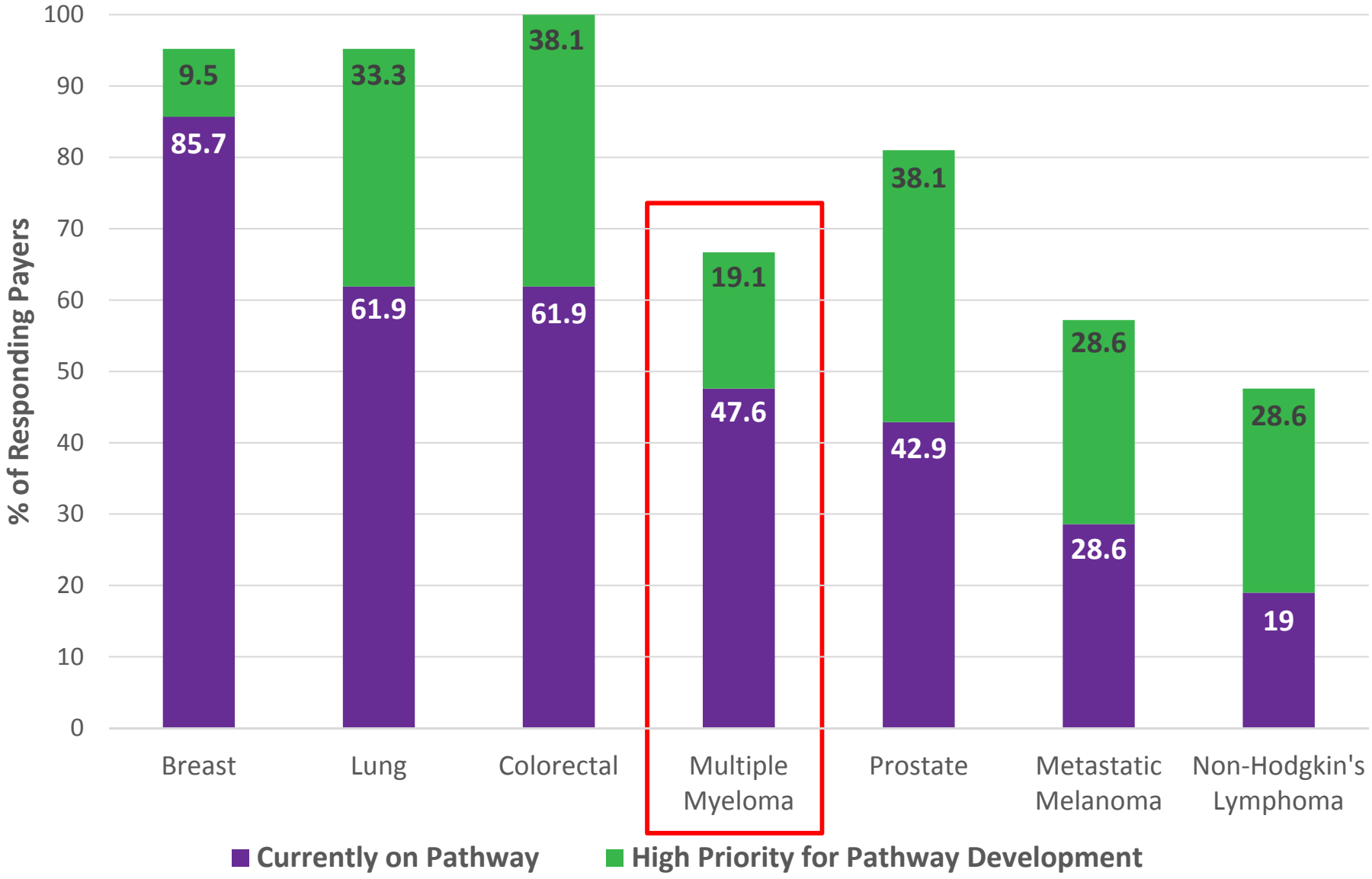
- Multidisciplinary approach with a strong dedicated team
- Physician knowledge about MM (ie, experienced, motivated, significant clinical expertise)
- ***Offering personalized care***
- ***Reviewing and following established guidelines (NCCN, ASCO)***
- Use of current therapies
- Established referral networks
- Provision of supportive care
- Provision of clinical trials in MM

These components were identified also as necessary for good patient care:

- Social work services, support groups
- ***Staff education (in-service programs)***
- Patient assistance for financial coordination and transportation
- ***Clear clinical pathways***

Multiple Myeloma Resources & Tools for the Multidisciplinary Team. http://www.accc-cancer.org/resources/MultipleMyeloma-Improving-Care-Project.asp. Accessed March 19, 2015.

Pathways Programs Are Gaining Popularity for Solid Tumors and Select Hematologic Malignancies



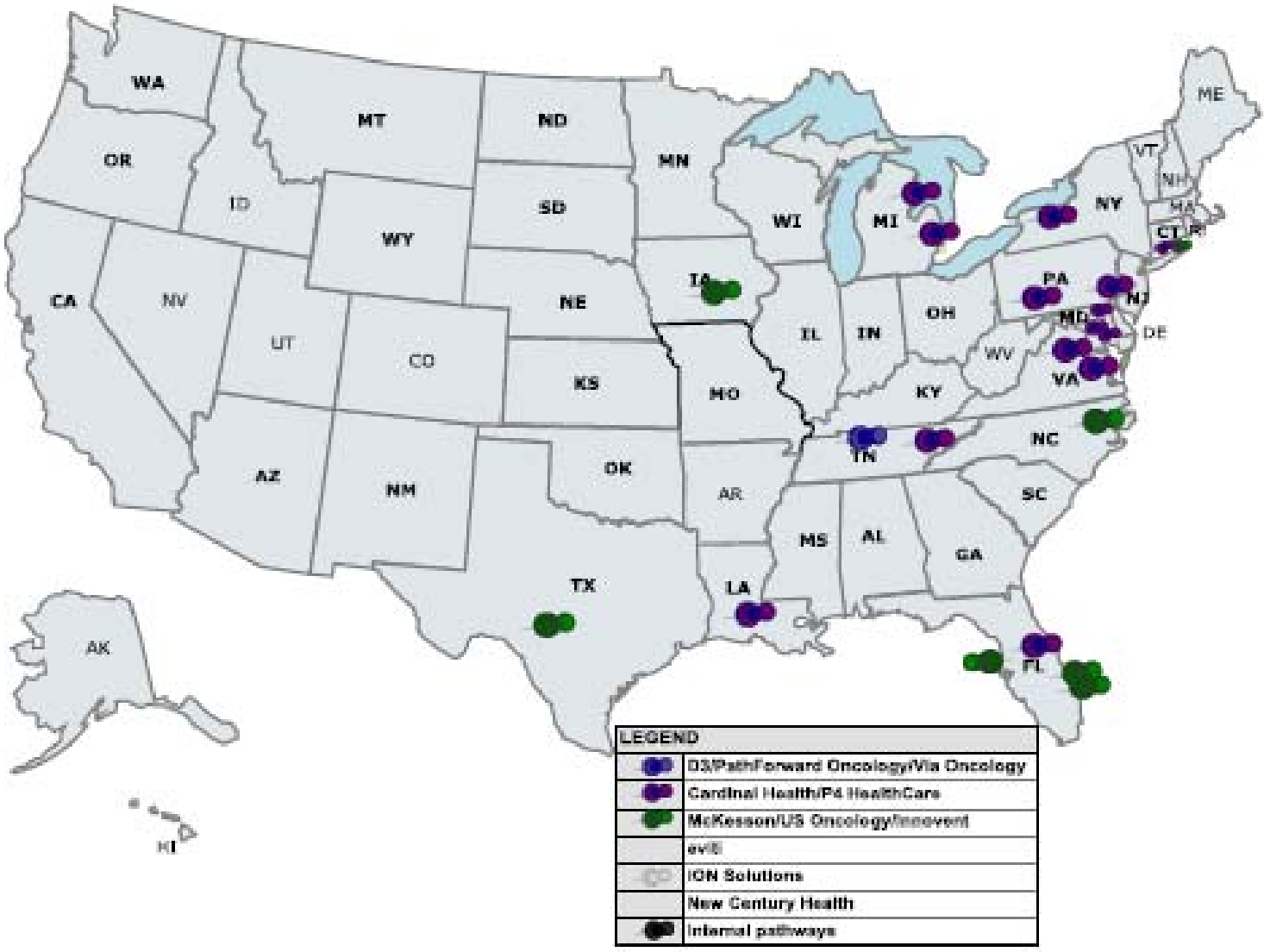
Greenapple R. *J Oncol Pract.* 2013;9:81-83.

Current Programs Are Implemented with a Focus on Both Payers and Providers

Vendor	Focus	Current Pathways	Pathways in Development
D3/PathForward (Via Oncology)	Both	Medical Only – Bladder, CML, Colon, MDS, Melanoma, Myeloma (Newly Diagnosed, Relapsed, Maintenance Therapy, Waldenstrom's Macroglobulinemia, Primary Amyloidosis, Plasma Cell, Solidary Plasmacytoma, POEMS), Renal, and Testicular Medical & Radiation – Breast, Esophageal, Gastric, Head & Neck, Lung (Mesothelioma, Non-Small Cell, Small Cell), Lymphoma (Hodgkin's, Non-Hodgkin's, Follicular, Mantle Cell/SLL, Large B Cell, Peripheral T Cell), Ovarian, Pancreatic, Prostate, Rectal, and Uterine Radiation Only – Bone mets, Brain mets, Cervical, Endometrial, Primary Brain, Sarcoma, and Vulvar	Additional features: Advanced care planning, appropriate use of molecular/diagnostic testing, supportive care, surgery NEW: Medical Only – Palliative care (ACP, nurse triage with sx mgmt.); Surveillance for imaging during survivorship; imaging with surveillance
Cardinal Health/P4 Healthcare	Payer	Breast, Lung, Colon, CLL, Ovarian, Prostate, Renal, and Multiple Myeloma, B-Cell Non-Hodgkin's Lymphomas (follicular, large cell, mantle cell) and/or Supportive Care Areas of Anemia, Neutropenia, and Anti-Emesis	Additional features: supportive care, end-of-life care, and molecular/diagnostic testing
McKesson/US Oncology (Innovent, Level I and NCCN)	Provider, soon Both	USO Level 1 – Breast, CLL, Colon, Esophageal/EGJ, Gastric, Head & Neck (3), Hodgkin's Lymphoma, Multiple Myeloma, Non-Hodgkin's Lymphoma (3), Non-Small Cell Lung, Ovarian, Pancreatic, Prostate, Rectal, Small Cell Lung, Supportive Care (4); Value Pathways – 19 tumor types to start, beginning with Breast, Colon, and Lung (June 2013), followed by prostate, CML, rectal, SCLC, etc.	Additional features: RT, imaging, molecular diagnostics, and supportive care
Eviti (eviti)	Payer	1,700+ treatment regimen options for 120+ cancer types and 10,000+ clinical trials; with a goal of covering 100% of patient presentations	Additional features: molecular diagnostics, payer authorizations through Eviti Connect
New Century Health	Payer	13 major tumor types, including Breast, Lung, Colon, Prostate, Leukemias, Lymphomas, Melanoma, Pancreatic, Ovarian, Kidney, and Rectal; covering 75% of patient presentations and 80% of payer spend	Additional pathways to meet goal of covering 90-95% of patient presentations
ION Solutions (National Pathways)	Both	Breast, Colon, Lung, and best supportive care	

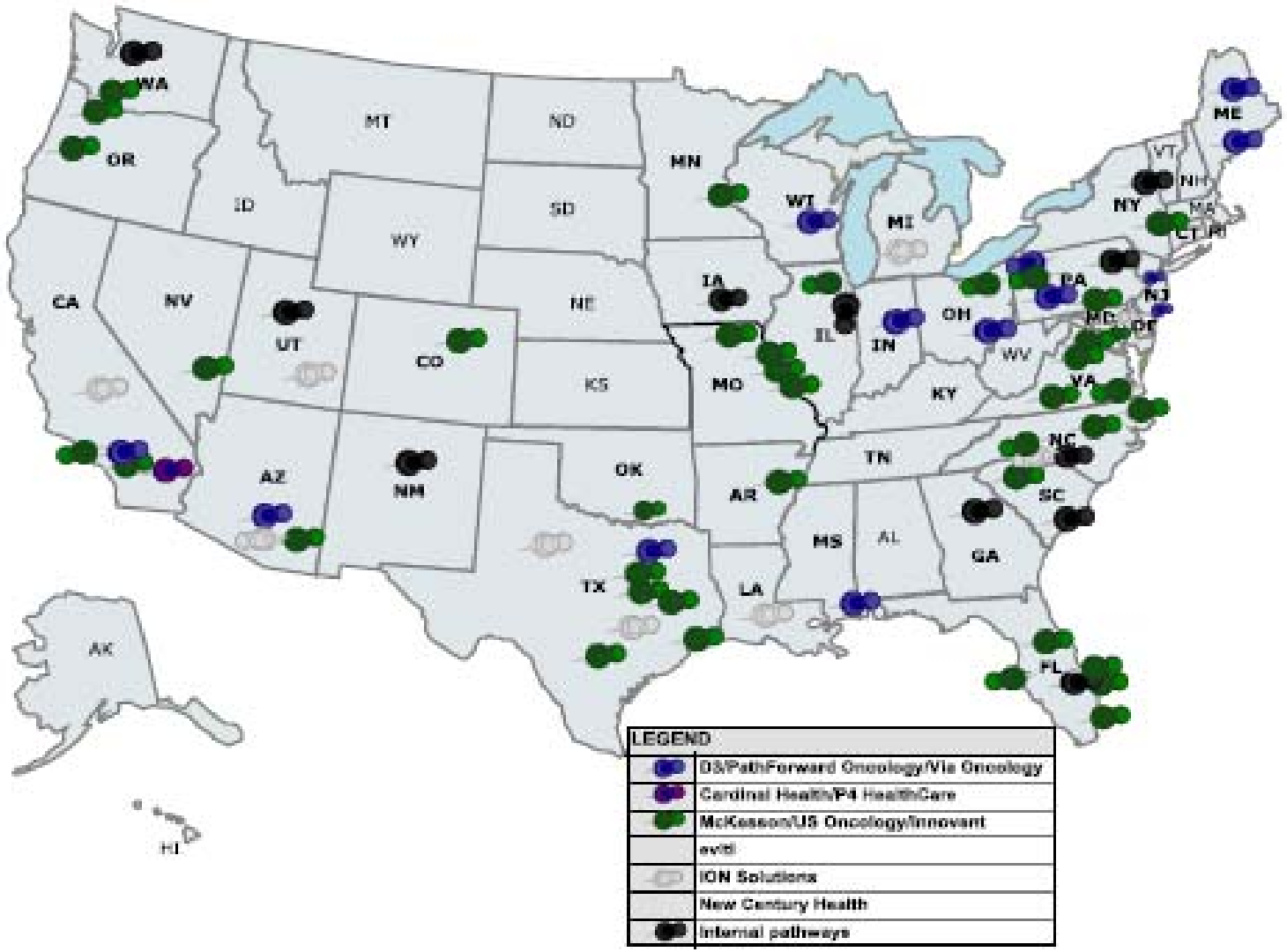
DKP Critical Insights: Clinical Pathway Trends and Evolution. October 2013.

Current Programs: Vendor Collaborations with Payers



DKP Critical Insights: Clinical Pathway Trends and Evolution. October 2013.

Current Programs: Vendor Collaborations with Providers



DKP Critical Insights: Clinical Pathway Trends and Evolution. October 2013.

Implications of Pathways-based Programming in the New Accountable Care Ecosystem

- The emergence of accountable care organizations (ACOs), bundled payments, and at-risk models will likely make the cost of cancer therapies a higher priority in decision-making processes
  - Discussions will consider the total cost of care, including supportive care, imaging, and procedures
  - Some pathways programs are currently addressing these
- Utilization of pathways-based initiatives in an accountable care environment may require more intensive pharmacoeconomic analyses
  - These cumulative factors reiterate the importance of cost-effectiveness analyses and comparative effectiveness analyses
- Vendors are collaborating with ACOs and building their own patient-centered medical home (PCMH) models and incorporating pathways
  - Pathway participants may be at an advantage since they are already familiar with the system when pathways are incorporated into these business models

Characterizing the Value of Pathways-based Initiatives

Payers

- Reduce treatment variability and eliminate inappropriate care, specifically at end of life
- Streamline payer staff effort associated with prior authorizations

Providers

- Pathways are integrated into provider-practice interface, web-based access
- Pathways updated on a regular basis (ie, quarterly, upon new product approval)

Both

- Provide direction in selecting appropriate therapy based on efficacy, safety, and cost
- Incentives specific to each program, with ability to tailor how providers are rewarded for adherence

Questions Remain for Payers that Will Continue to Shape Pathways-based Initiatives

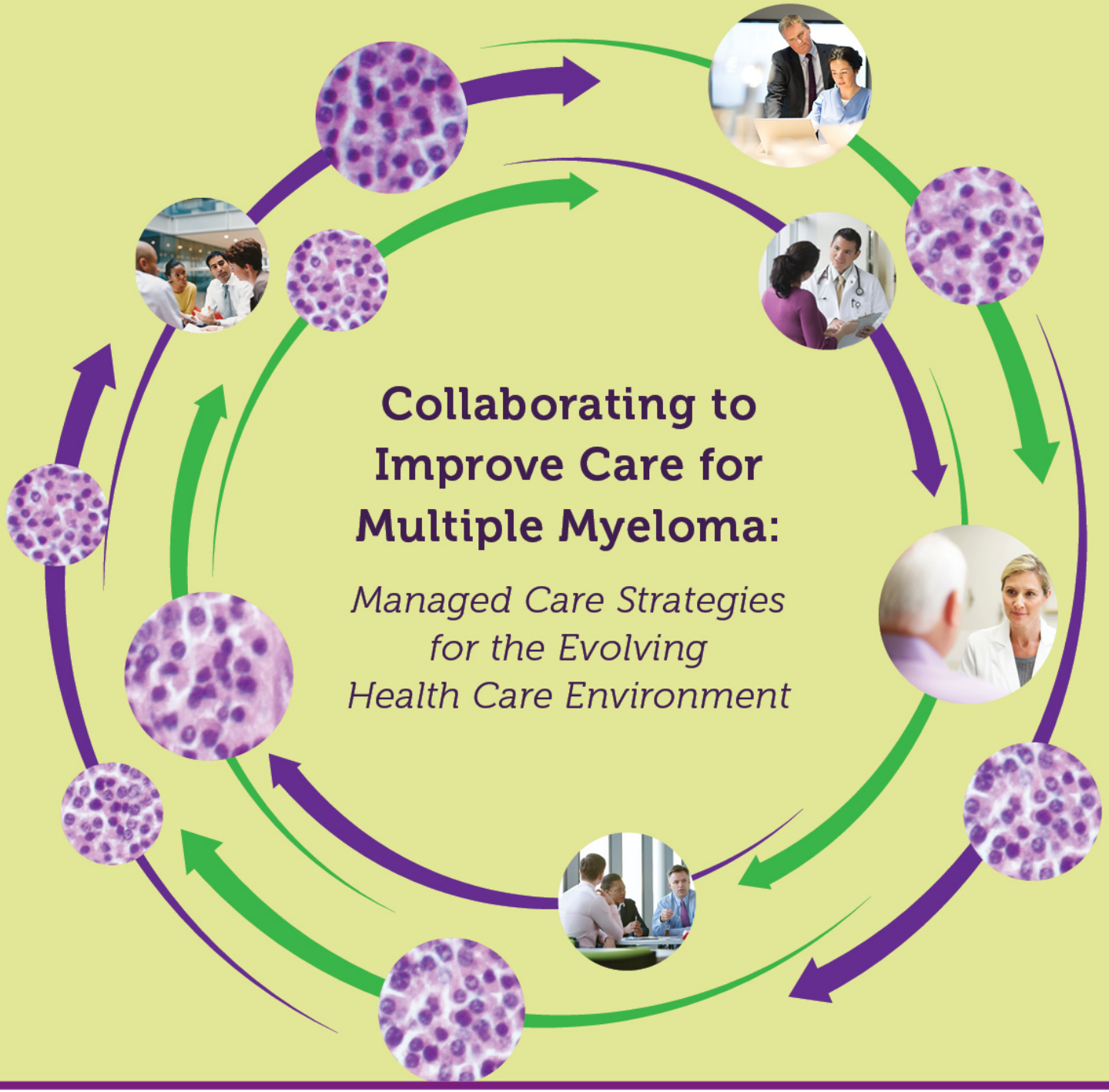
- How should branded and generic (biosimilar) treatments be positioned
  in pathways?
- How can stakeholders vary parameters to minimize total cost of care while ensuring optimal outcomes?
- What is the best way to manage downstream costs associated with supportive care and hospitalizations?
- How can pathways-based initiatives be optimized to manage price premiums associated with “me-too” drugs?
- What are the most important outcomes, clinical and economical?
- Can patient-reported outcomes be integrated into the equation?
- How much value should be assigned to improved quality of life?

Questions Remain for Providers that Will Influence Pathways Uptake and Adherence

- Do pathways address cancers that are relevant to oncologists' practices?
- Can providers participate in developing specific pathways?
- How can providers access pathways (ie, integrated into electronic medical record [EMR])? Can they be accessed real-time for decision support?
- Do specific pathways align with guidelines or recommendations that providers currently use?
- Are diagnostic tools, imaging studies, biomarker assays, and supportive care included in the pathways?
- Is participation mandatory? What are the incentives for participation and adherence?
- What happens if a provider selects an "off-pathway" therapy for a particular patient?
- Is cost factored into the specific therapeutic options on the pathway?
- Does a reporting feature help practices track progress and compare performance?

Summary/Future Considerations

- Clinical pathways-based initiatives condense an expansive menu of treatment options from consensus guidelines into a concise decision-support tool
- Pathways programs have gained traction for solid tumors and for selected hematologic malignancies, including MM
- Providers are more likely to use pathways models that can be integrated into their EMR system and that address relevant cancers
- Platforms with web-portal access or other integrated options that offer real-time functionality, including decision support and real-time claims adjudication, benefit both payers and providers



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Improving Multiple Myeloma Care via the Comprehensive Model: Attaining Provider Buy-in for Management Interventions and Specialty Pharmacy Services

James Kenney, Jr., RPh, MBA
Manager, Specialty and Pharmacy Contracts
Harvard Pilgrim Health Care

Payers' Attitudes Toward the Management of Oncology Therapies Have Changed: Cancer is No Longer Untouchable

Price and value of therapies rarely questioned

Vigorous debate about the overall value* of treatments

Pre-specialty oncology drug era

Specialty oncology drug era

Payers now actively apply payment reforms and quality measurement to cancer services

*Clinical, pharmacoeconomic, humanistic, societal, etc.

Health Care Reform is Reshaping the Dynamic of Oncology Practice

- The average oncology practice size has increased
  - Practices are being acquired by health systems and smaller practices are aggregating to mitigate financial risk
- The number of oncologists in nearly every subspecialty has increased over the past decade, but practices are struggling:
  - 20% increase in the number of practices with a hospital agreement or purchased
  - Practices reporting financial struggles increased by 20%
  - The proportion of oncology practices with 7 or more physicians increased from 29% in 2012 to 42% in 2013
- Payers view these changes as unfavorable. The health system and hospital is generally the most costly setting for delivery of oncology services for all stakeholders

Community Oncology Alliance. Practice Impact Report, 2013. Available at: http://www.communityoncology.org/UserFiles/Community_Oncology_Practice_Impact_Report_6-25-13F.pdf. Accessed March 19, 2015.

Payers' Utilization Management Interventions and Other Strategies are Often Tempered to Minimize Oncologist Pushback

- Formularies are relatively all-inclusive of FDA-approved oncology therapies
- Prior authorization (PA) criteria for oncology therapies are generally limited to labeled indication(s)
- Claims denials are subject to appeals with liberal evidentiary requirements
- Oncology networks are often involved in decision-making regarding clinical pathways and similar initiatives

Current Issues in Provider Relations

- Fee schedules and reimbursement
  - Traditionally, profit margins on injectable cancer therapies represented a revenue stream for oncologists. Less favorable reimbursement arrangements have affected these margins
- Site of care
  - The provider's office is often the most cost-effective setting, but facility administration is becoming more prevalent
- Route of drug administration
  - Oral therapies eliminate the opportunity for providers with infusion suites to obtain revenue on drug margin
- Mandated clinical pathways
- Politics and other network issues
  - Management of oncology networks must be handled carefully to keep oncologists satisfied and ensure the health plan's attractiveness to potential members (employers)

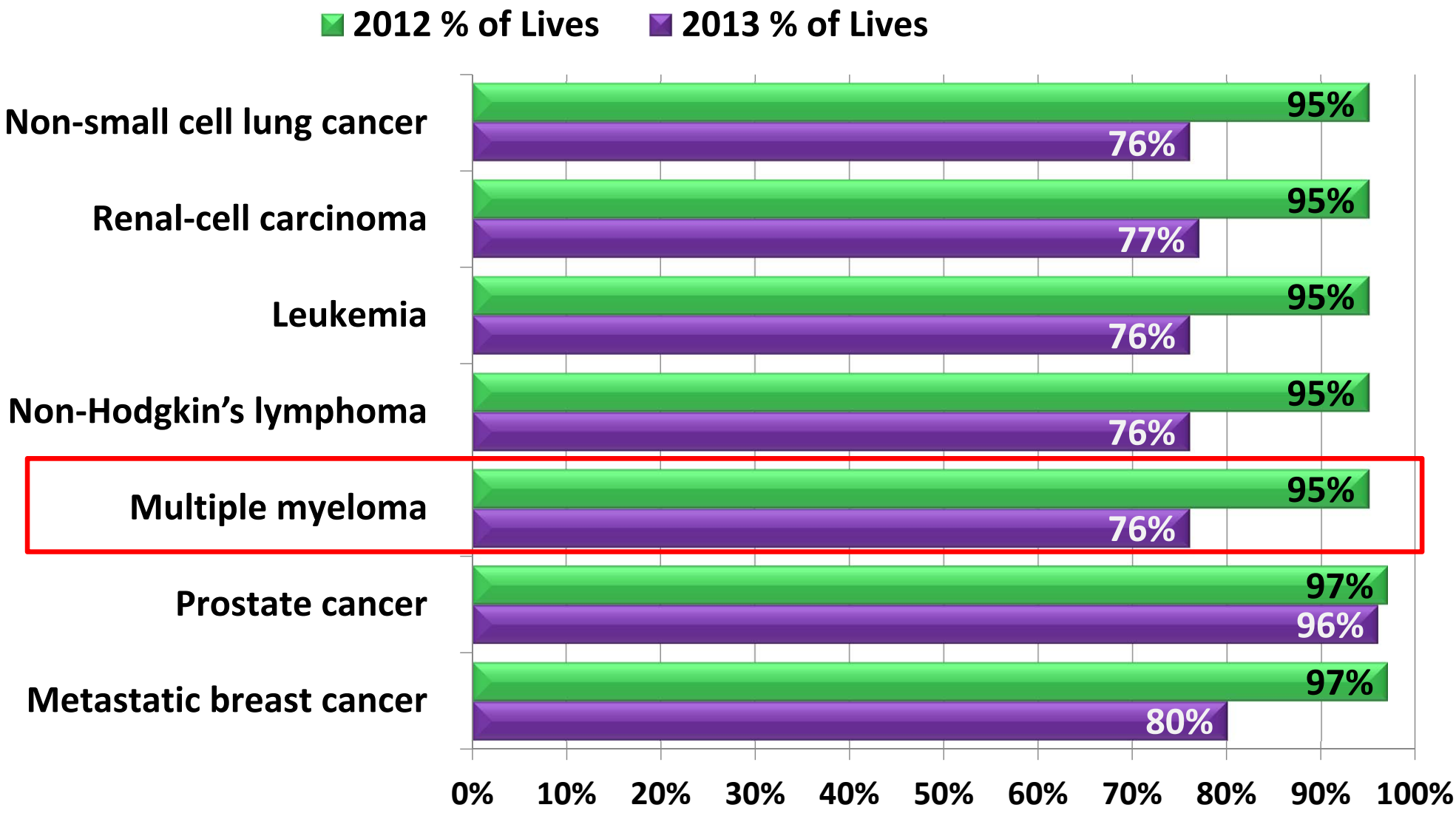
Current Oncology Management Initiatives Indicate More Collaborative Efforts Between Payers and Providers

Integrated payer/provider initiatives	Percentage of MCOs (n=60)
Adopt PCMHs in which primary care physicians coordinate care with oncologists and other specialists	40.0%
Measure the clinical impact of treatment pathways on patient care	36.7%
Measure the cost impact of treatment pathways	35.0%
Implement new risk arrangements/payment models with oncology practices	28.3%
Form an oncology ACO in the commercial space	25.0%
Form an oncology ACO in the Medicare/Medicaid space	20.0%
Reimburse oncology practices for data collection as part of quality improvement activities	20.0%
Offer financial support to fund EHRs and decision-support tools in network oncology practices	8.3%
Offer financial support to fund oncology medical homes among network oncology practices	6.7%

PCMHs=patient-centered medical homes; ACO=accountable care organizations; EHRs=electronic health records.

2014 Oncology Trend Report. Available at: http://www.genentech-forum.com/annual-genentech-oncology-trend-report. Accessed March 19, 2015.

Specific Cancer Types Subjected to Medical Utilization Tools



Magellan Pharmacy Solutions. Medical Pharmacy & Oncology Trend Report 2013.

Specific Cancer Types Subjected to Medical Utilization Tools

Cancer Type	2010 % of Lives	2011 % of Lives	2012 % of Lives	2013 % of Lives
Metastatic Breast Cancer	59%	70%	97%	80%
Prostate Cancer	59%	94%	97%	96%
Multiple Myeloma	56%	62%	95%	76%
Non-Hodgkin's Lymphoma	49%	66%	95%	76%
Leukemia	48%	69%	95%	76%
Renal-Cell Carcinoma	54%	75%	95%	77%
Non-Small Cell Lung Cancer	85%	83%	95%	76%

Magellan Pharmacy Solutions. Medical Pharmacy & Oncology Trend Report 2013.

Utilization Management Tools by Class

THERAPEUTIC CLASS	Prior Authorization	Case Management	Formulary	Step Edit	Clinical Pathway
Intravenous immunoglobulin (IVIG)	85%	20%	18%	10%	5%
Chemotherapy	67%	37%	24%	15%	31%
Erythropoiesis-stimulating agents (ESAs)	66%	18%	33%	10%	16%
Colony-stimulating factors (CSFs)	65%	17%	24%	9%	30%
Chemotherapy-induced nausea and vomiting (CINV)	59%	19%	38%	13%	10%
Biologics	83%	21%	39%	50%	6%
Hemophilia	58%	30%	17%	0%	4%

n = 39 payers, 62 million lives

Magellan Pharmacy Solutions. Medical Pharmacy & Oncology Trend Report 2013.

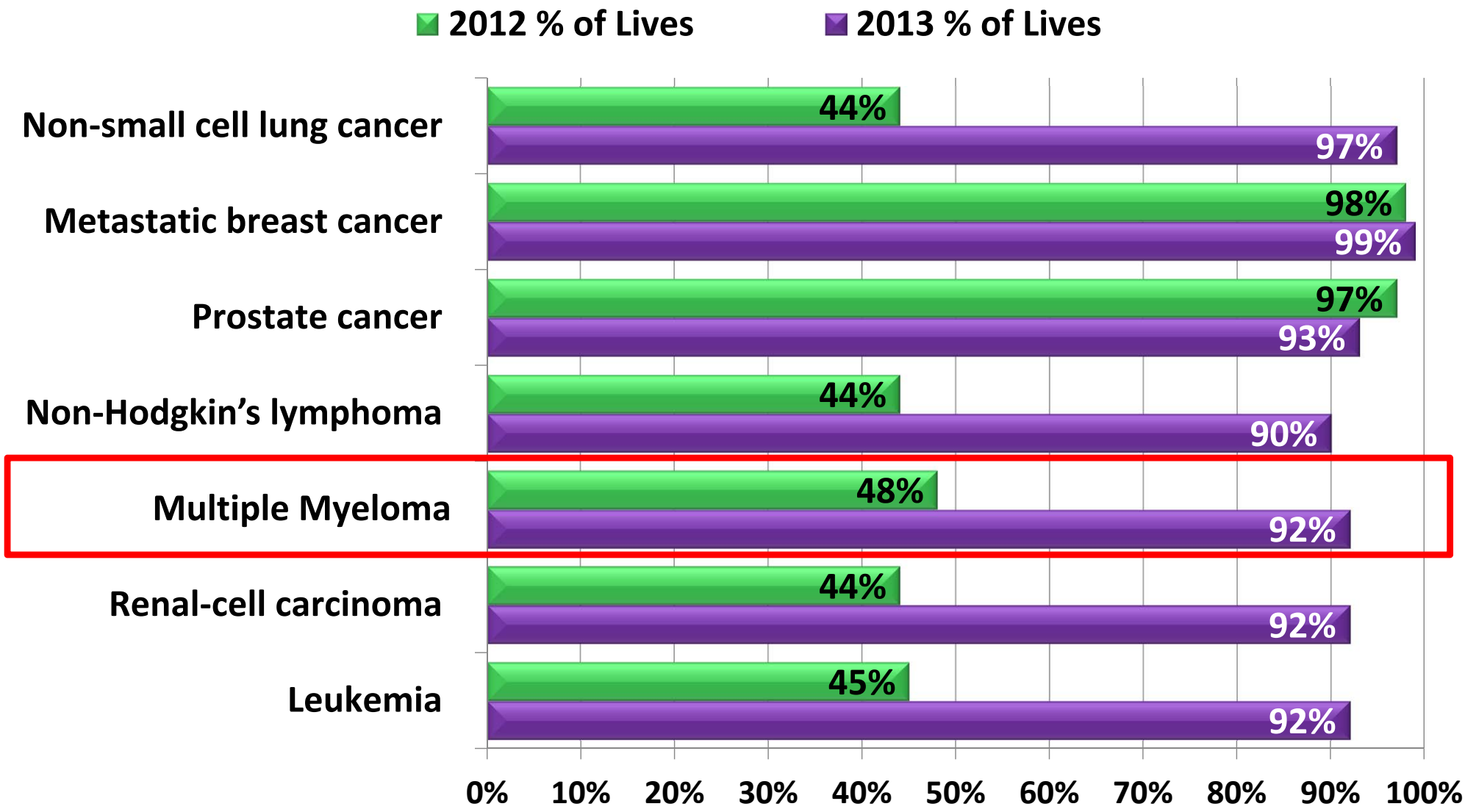
Utilization Management Tools by Class (cont.)

THERAPEUTIC CLASS	Disease Management	NCCN Guidelines	None	Differential Reimbursement	Generic First
Intravenous immunoglobulin (IVIG)	4%	3%	0%	0%	0%
Chemotherapy	3%	41%	1%	8%	5%
Erythropoiesis-stimulating agents (ESAs)	3%	15%	3%	0%	0%
Colony-stimulating factors (CSFs)	3%	31%	3%	1%	0%
Chemotherapy-induced nausea and vomiting (CINV)	3%	28%	8%	3%	10%
Biologics	9%	3%	2%	2%	5%
Hemophilia	11%	3%	9%	7%	0%

n = 39 payers, 62 million lives

Magellan Pharmacy Solutions. Medical Pharmacy & Oncology Trend Report 2013.

Common Cancer Types Under Formulary

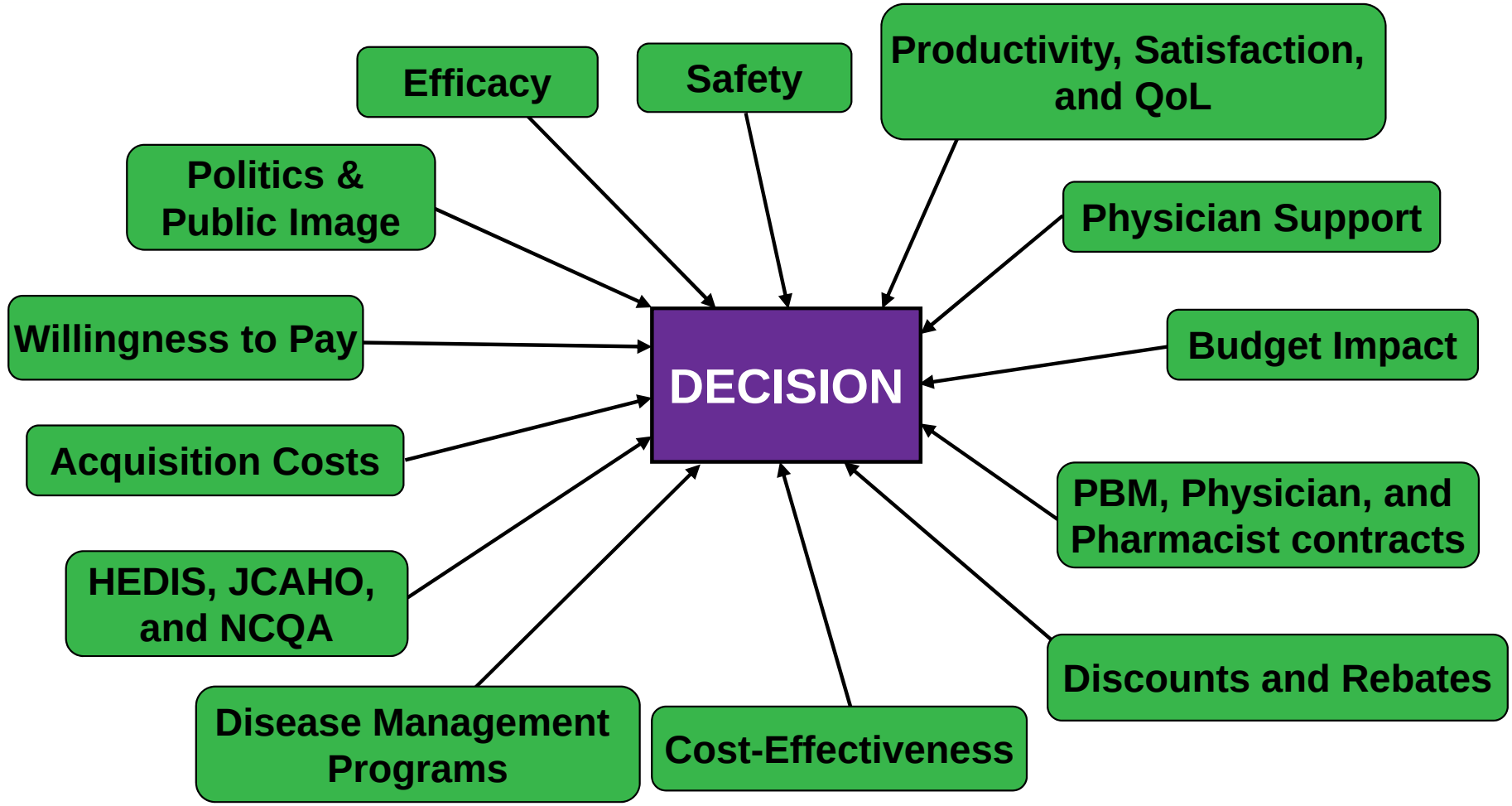


Magellan Pharmacy Solutions. Medical Pharmacy & Oncology Trend Report 2013.

Benefit Design Changes: Now and in the Future

- Injectable and medical formulary
  - Issues
    - Timing of adjudication
    - Data captured
    - Data reported: not National Council for Prescription Drug Programs
    - Benefit structure: tiering, ability to scale, etc.
  - Needs
    - Better data
      - Real-time adjudication
      - National Drug Codes or more timely and specific codes
  - Examples
    - Oncology
    - Durable medical equipment

Potential Factors in MM Formulary Decision Making



HEDIS = Healthcare Effectiveness Data and Information Set; JCAHO = Commission on Accreditation of Healthcare Organizations; NCQA = National Committee for Quality Assurance; PBM = pharmacy benefit manager.

Academy of Managed Care Pharmacy. Format for formulary submissions. Version 2.0. http://amcp.org/WorkArea/DownloadAsset.aspx?id=16276. Accessed February 16, 2015.

Plans Need to Balance Outcomes, Cost Shifting to Patients, and Therapy Compliance

- Member decision factors
  - Cost share
  - Compliance
  - Efficacy/tolerability
- Benefit design factors
  - Medical vs pharmacy
  - Copay vs coinsurance
  - Specialty tiers

Chemotherapy Parity Legislation Affects Cost Shifting For Oral Oncology Therapies

- Chemotherapy parity legislation enacted in several states to ensure comparable OOP costs for patients covered under the medical benefit versus the pharmacy benefit
  - Plans can make adjustments if they have coinsurance on the medical benefit and co-payments on the pharmacy benefit
- As of January 1, 2013, in Massachusetts, if there were $0 in OOP expenses for medical benefit chemotherapy, an identical $0 OOP expense must also apply for pharmacy benefit chemotherapy

Coverage of Off-label Anti-cancer Therapies is Often Mandated at the State Level

- Approximately half of states have such requirements in place, although the specific verbiage may vary
  - Iterations include “chemotherapy,” “anti-cancer therapies,” and “treatment for any life-threatening condition”
- The coverage of off-label agents in these instances also includes the coverage of any medically necessary services associated with the administration of the drug
- No coverage is required for the following:
  - Drugs that have not been fully licensed or approved by the FDA
  - The use of any drug in a scenario in which the FDA has determined the agent to be contraindicated
  - Experimental drugs not approved for any indication by the FDA

Hutchins VA, et al. *J Oncol Practice*. 2013;9:73-77.

Guideline- and Pathways-based Programs are Gaining Traction in Managed Care Oncology

- Three-fourths of MCOs are following care guidelines
  - 39% rated guidelines as moderately to extremely effective in enabling quality and cost-effective care
- Nearly one-third of MCOs are following pathways
  - 53% rated pathways as moderately to extremely effective in enabling quality and cost-effective care
- Voluntary participation by oncologists is the norm for both guideline- and pathways-based programming
- 20% of MCOs surveyed incentivize oncologists in various manners for guideline and/or pathways adherence:
  - Reduced requirements or faster processing of PA/precertification
  - Preferred provider status
  - Sharing in cost savings
  - Higher reimbursement

2014 Oncology Trend Report. Available at: http://www.genentech-forum.com/annual-genentech-oncology-trend-report. Accessed March 19, 2015.

Providers are Largely Supportive of Guideline- and Pathways-based Programs

- 63% of oncologists surveyed use cancer treatment guidelines
- 49% of oncologists participate in pathways-based programming
- Nearly half of oncologists are measuring the impact of guidelines on care quality
  - One-third reported doing so with pathways
- Compliance with both types of initiatives is enforced via tumor board discussions and practice reports shared with peers
- According to 35% of oncologists and 27% of MCOs, balancing treatment standardization with personalization is the most significant gap in cancer care

2014 Oncology Trend Report. Available at: http://www.genentech-forum.com/annual-genentech-oncology-trend-report. Accessed March 19, 2015.

Further Pharmacy Management Strategies in Oncology: Beyond Pathways

- Incentive programs
- Specialty pharmacy integration
- Case management
  - More active and educated intervention
- Patient support programs
- Compliance monitoring
  - Pharmacist should have at least quarterly interactions with patients
  - Internal reports and meetings
  - Review of pharmacy data

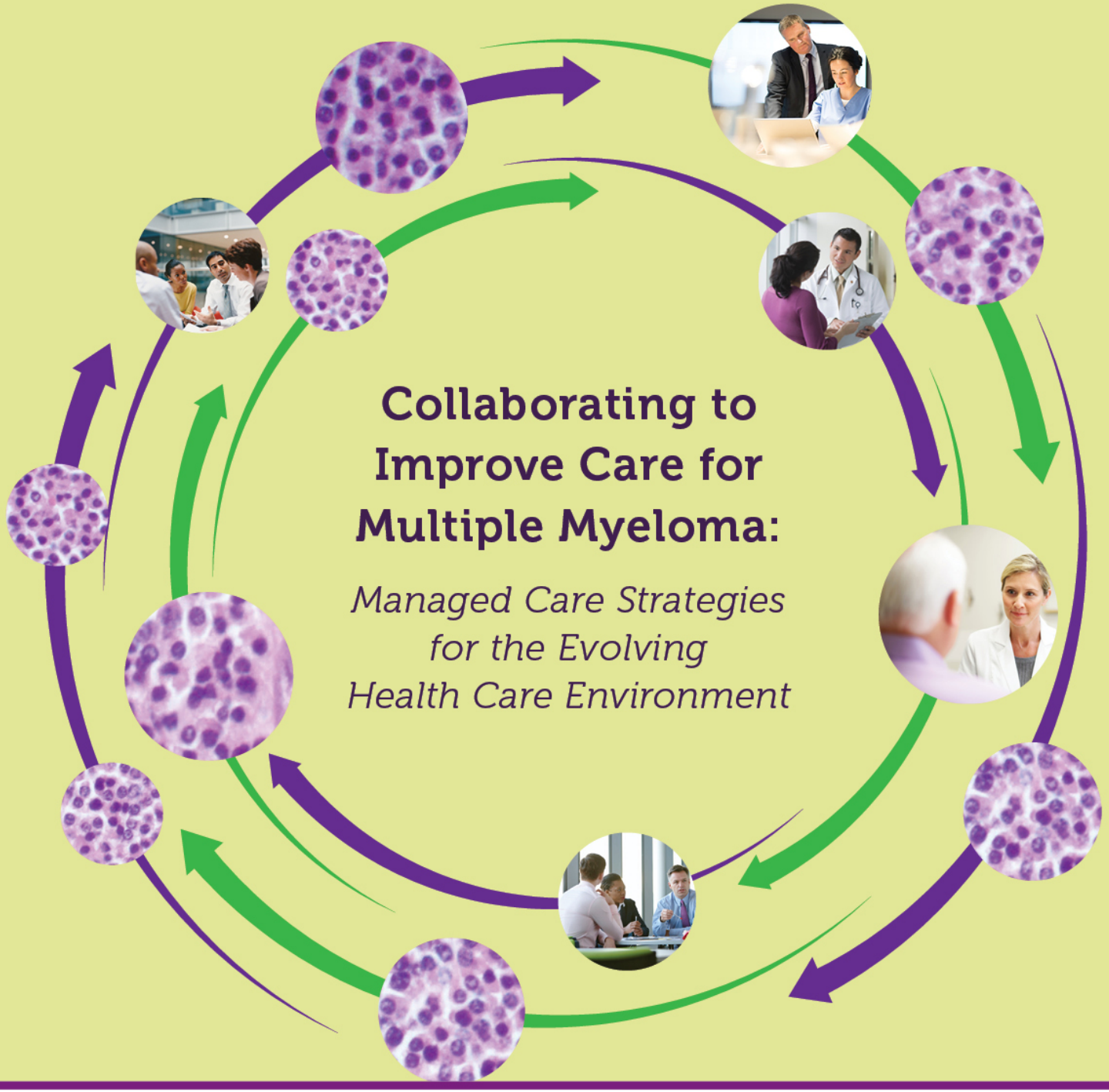
Collaborative Opportunities in the Comprehensive Care of MM

- Help patients adhere to long-term oral therapies, such as lenalidomide
  - Monitoring and safety checks
  - Pharmacy reporting of premature or delayed prescription refills
- Communicate efficiently, sharing treatment plan and goals among cancer care team, primary care physician, and specialty pharmacy
- Integrate patient education and support
  - Electronic medical record after visit instructions
  - Medication self-management: proper use, who to call for what
- Evaluation of outcomes, including patient experience and satisfaction

Tremblay D, et al. *Implementation Sci.* 2014;9:1-11.

Summary

- Increasingly limited financial resources and an evolving accountable care ecosystem have dramatically shaped the oncology practice dynamic
- Payers are charged with the task of judiciously managing drug utilization, while at the same time maintaining provider relations
- Utilization management interventions, benefit design strategies, and other considerations (i.e., site-of-care) will continue to play an important role in future plan activities
- Comprehensive care strategies that incorporate case and medication therapy management initiatives offer an opportunity to improve care and mitigate financial risk



Collaborating to Improve Care for Multiple Myeloma:

Managed Care Strategies for the Evolving Health Care Environment

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Key Takeaways and Closing Comments

Follow-Up Live Webcast Series

Collaborating to Improve Care for Multiple Myeloma:
Managed Care Strategies for the Evolving Health Care Environment

CME/CNE/CPE Credit Available

DAY	DATE	TIME
Tuesday	June 23, 2015	12:00 – 1:30 PM EDT
Thursday	June 25, 2015	12:00 – 1:30 PM EDT
Tuesday	June 30, 2015	1:00 – 2:30 PM EDT

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