Real-World Efficacy and Safety Outcomes of Talquetamab: An Updated Analysis in Predominantly Community-based Setting

PA-394

Darren Pan[1]; Rohan C. Parikh[2]; Ming-Hui Tai[2]; Ibrahim Saber[2]; Jessica Fowler[2]; Caleb Paydar[3]; Oluwabunmi Emidio[3]; Angele Kotomale[3]; Tinu Toms[3]; Monica Ahlquist[3]; Shuchita Kaila[2]; Bruce Feinberg[3]

[1]UCSF Helen Diller Family Comprehensive Cancer Center, San Francisco, CA, USA; [2]Johnson & Johnson, Horsham, PA, USA; [3]Cardinal Health, Dublin, Ohio, USA

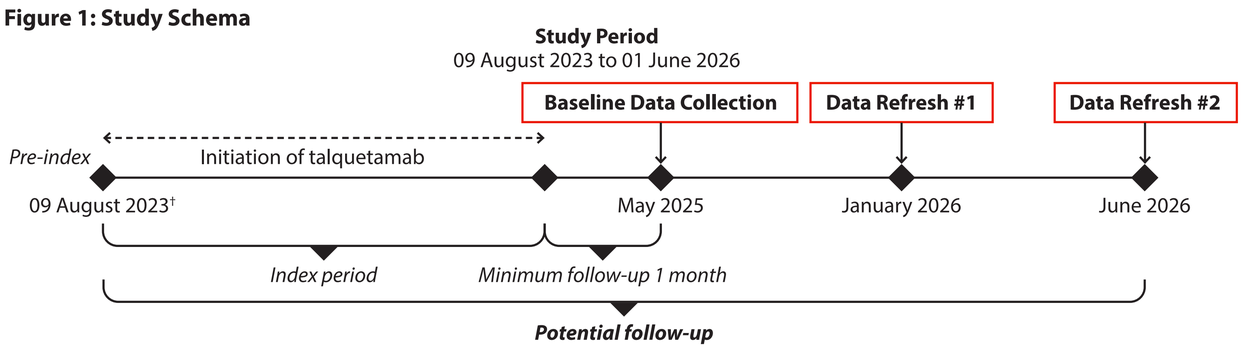
Background

- Relapse/refractory multiple myeloma (RRMM) is a heterogenous hematologic cancer with ongoing unmet clinical needs despite recent treatment advances.
- In August 2023, talquetamab (TAL), a first-in-class GPRC5D-targeted bispecific antibody, received accelerated approval by the United States (US) Food and Drug Administration for adults with RRMM after at least four prior lines of therapies (LOT), including a proteasome inhibitor, an immunomodulatory agent, and an anti-CD38 monoclonal antibody (i.e., triple class exposed [TCE])[1]
- The MonumenTAL-1 clinical trial demonstrated clinically meaningful overall response rate (ORR), duration of response (DOR) and overall survival (OS).[2,3]
  - ORR: 67-74% with a very good partial response or better in 55-60%
  - 12-month DOR: 44-61%
  - 12-month PFS: 35-47%
  - 12-month OS: 74-77%
- The objective of this study was to examine longitudinal, real-world outcomes in patients with RRMM treated with TAL including those managed predominantly in community settings, in which evidence is limited.

Methods

- This longitudinal, retrospective, observational, multi-site, medical chart review study examined data of adults ≥18 years with confirmed RRMM who initiated TAL between 09 August 2023 and 14 May 2025 (**Figure 1**), outside of the clinical trial setting.
- Physicians from the Cardinal Health Oncology Provider Extended Network (OPEN) identified patients meeting the study selection criteria and abstracted de-identified data from patients' electronic medical records into electronic case report forms.
- Descriptive analyses were conducted for the overall cohort and for a subset of patients treated per US Prescribing Information (USPI) criteria.
  - USPI Cohort: TCE, initiated TAL as monotherapy after at least four prior LOT, non-bridging to CAR-T, who only received step-up dosing in an inpatient setting and did not switch to less frequent dosing.
- Real-world ORR (rwORR), DOR (rwDOR), progression-free survival (rwPFS), and OS were estimated using the Kaplan–Meier method.

Figure 1: Study Schema



†Talquetamab US FDA approved on 09 August 2023.
Note: Follow-up is the management of the patient by the provider completing the eCRF at their practice.

Results

Physician and Practice Characteristics

- Among 25 physicians enrolled at baseline, 18 (72.0%) practiced in community settings and 7 (28.0%) practiced in academic settings.
- The majority of physicians practiced in urban settings (56.0%), followed by suburban (40.0%) and rural (4.0%) settings.
- Most physicians were medical oncologists (96.0%) and/or hematologists (84.0%), with a median 13.0 years in practice.

Patient Characteristics

- A total of 176 pts were included. See **Table 1** for patient characteristics.
- At the time of second data refresh, 139/176 patients were alive with the abstracting physician available in the Cardinal Health OPEN.
- Longitudinal data were collected for 79.1% (110/139) of eligible patients at second data refresh.
  - More than half of the patients (54.0%; 95/176) met USPI criteria.
- At the time of the second data refresh, median follow-up was 14.9 months (interquartile range [IQR]: 9.8-16.8).

Table 1: Patient Characteristics

Characteristics	All Patients N=176	USPI Cohort n=95
Follow-up from TAL initiation, months, median (IQR)	14.9 (9.8-16.8)	15.5 (13.7-17.5)
Age at initiation, years, median (IQR)	68.6 (63.6-73.5)	68.6 (64.2-72.7)
Male, n (%)	105 (59.7)	60 (63.2)
Race, n (%)		
White	124 (70.5)	59 (62.1)
Black or African American	41 (23.3)	31 (32.6)
Community setting, n (%)	127 (72.2)	73 (76.8)
ISS stage, n (%)	19 (10.8)	11 (11.6)
Stage I (Sβ2M < 3.5 mg/L; serum albumin ≥ 3.5 g/dL)	1 (5.3)	1 (9.1)
Stage II (Sβ2M < 3.5 mg/L; serum albumin < 3.5 g/dL; or β2M 3.5 to 5.5 mg/L, irrespective of serum albumin)	8 (42.1)	4 (36.4)
Stage III (Sβ2M > 5.5 mg/L)	10 (52.6)	6 (54.6)
R-ISS stage, n (%)	140 (79.6)	75 (79.0)
Stage I (Sβ2M < 3.5 mg/L, serum albumin ≥ 3.5 g/dL, standard-risk chromosomal abnormalities (CA) by iFISH, normal LDH)	21 (15.0)	6 (8.0)
Stage II (Not R-ISS Stage I or III)	55 (39.3)	30 (40.0)
Stage III (Sβ2M ≥ 5.5 mg/L and either, high-risk CA by FISH OR high LDH)	64 (45.7)	39 (52.0)
Cytogenetic risk, among patients with cytogenetic testing done at MM diagnosis, n (%)		
Standard risk	77 (45.8)	35 (38.9)
High risk	86 (51.2)	51 (56.7)
Unknown	5 (3.0)	4 (4.4)
Extramedullary disease, n (%)	9 (5.1)	7 (7.4)
ECOG-PS at the time of TAL initiation, n (%)		
0	11 (6.3)	5 (5.3)
1	118 (67.0)	75 (79.0)
2	46 (26.1)	15 (15.8)
3	1 (0.6)	0 (0.0)

CA=chromosomal abnormalities; ECOG-PS=Eastern Cooperative Oncology Group Performance Status; iFISH=Immunofluorescence and Fluorescence in situ Hybridization; ISS=International Staging System; IQR=Interquartile range; LDH=Lactate dehydrogenase; R-ISS=Revised International Staging System; Sβ2M=Serum β_2-microglobulin; TAL=Talquetamab

Outcomes

Treatment Patterns (Table 2)

- Patients received a median 4.0 (IQR: 3.0-4.0) LOT prior to TAL initiation; the majority (52.3%) were B-cell maturation antigen (BCMA)-exposed.
- Most patients (98.3%) initiated TAL as monotherapy; half of the patients initiated on a weekly (QW) dosing schedule and the other half on a biweekly (Q2W) dosing schedule.
- Most patients (79.6%; 140/176) were alive and the majority (52.3%; 92/176) were on TAL at the end of follow-up.
  - Median duration of therapy: 13.6 months (IQR: 6.0-15.6).
- Disease progression (30.1%) was the most common reason for discontinuation, followed by adverse events (AEs; 6.3%) and patient choice (5.7%).

Table 2: Treatment Patterns

	All Patients N=176	USPI Cohort n=95
Number of LOT received prior to initiation of TAL, median (IQR)	4.0 (3.0-4.0)	4.0 (4.0-5.0)
Prior BCMA exposure, n (%)		
Yes	92 (52.3)	58 (61.1)
ADCs only	1 (0.6)	1 (1.1)
CAR T only	60 (34.1)	35 (36.8)
ADC + CAR T	1 (0.6)	0 (0.0)
Bispecifics	30 (17.0)	22 (23.2)
No	84 (47.7)	37 (38.9)
Initiated TAL as monotherapy, n (%)	173 (98.3)	95 (100)
Initial dosing schedule, n (%)		
Weekly (QW)	88 (50.0)	54 (56.8)
Biweekly (Q2W)	88 (50.0)	41 (43.2)
Duration of therapy among all patients, median (IQR)	13.6 (6.0-15.6)	14.2 (8.0-15.9)
Patient discontinued TAL at end of follow-up, n (%)	84 (47.7)	38 (40.0)
Reason for discontinuation, n (%)*		
AE/toxicity/unacceptable side effects	11 (6.3)	2 (2.1)
Desired response achieved	3 (1.7)	0 (0.0)
Disease progression	53 (30.1)	29 (30.5)
Financial factors	1 (0.6)	0 (0.0)
Patient choice	10 (5.7)	3 (3.2)
Patient comorbidities	3 (1.7)	1 (1.1)
Patient performance status	3 (1.7)	1 (1.1)
Death	7 (4.0)	4 (4.2)

*Categories of response not mutually exclusive.
ADC=Antibody-drug conjugate; AE=Adverse event; BCMA=B-cell maturation antigen; CAR-T=Chimeric antigen receptor-T cell; IQR=Interquartile range; LOT=Line of therapy; QW=Weekly, Q2W=Biweekly; TAL=Talquetamab

Overall Cohort

- The rwORR based on best charted response was 85.5% (95% confidence interval [CI]: 79.1%-90.6%) among 158 response evaluable patients; 56.0% achieved very good partial response or better (VGPR+; **Figure 2**). The remaining 13.8% achieved minimal response or stable disease.
- The majority of patients (65.8% [95% CI: 55.9%-74.0%]) maintained a response for at least 12-months.
- At 12-months post-TAL initiation, OS was 82.0% (95% CI: 75.0%-87.1%) and rwPFS was 75.0% (95% CI: 67.5%-81.0%; **Figure 3a**).

USPI Cohort

- The rwORR based on best charted response was 89.8% (95% CI: 81.5%-95.2%) among 88 response evaluable patients and 69.3% achieved VGPR+ (**Figure 2**). The remaining 10.2% achieved minimal response or stable disease.
- The majority of patients (70% [95% CI: 57.8%-79.4%]) maintained a response for at least 12-months.
- At 12-months post-TAL initiation, OS was 89.9% (95% CI: 81.5%-94.6%) and rwPFS was 81.7% (95% CI: 71.9%-88.4%; **Figure 3b**).

Figure 2: ORR Based on Best Charted Responses

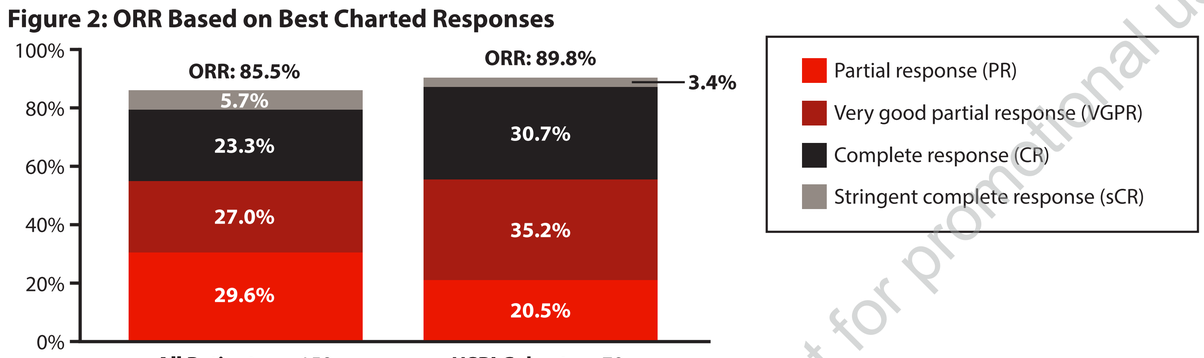


Figure 3a: Real-World Progression-Free Survival - Overall Cohort

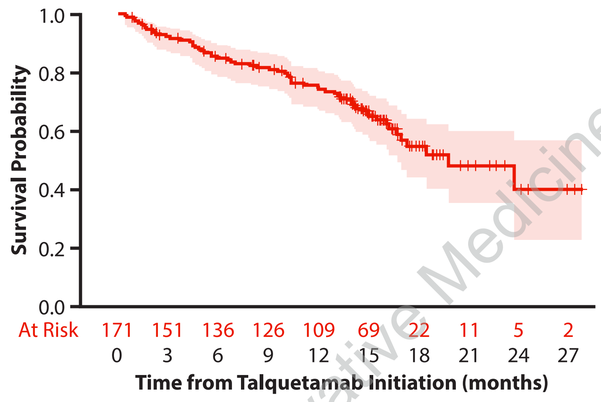
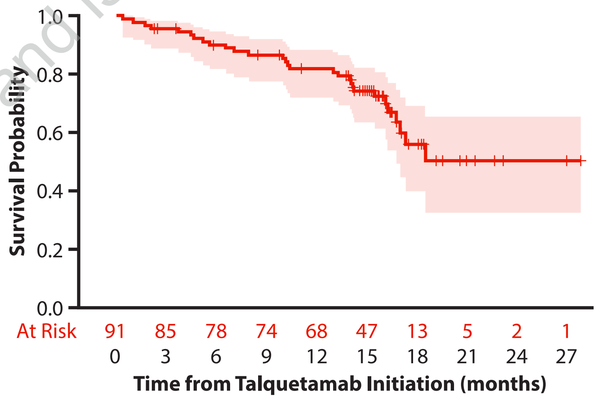


Figure 3b: Real-World Progression-Free Survival - USPI Cohort



Adverse Events

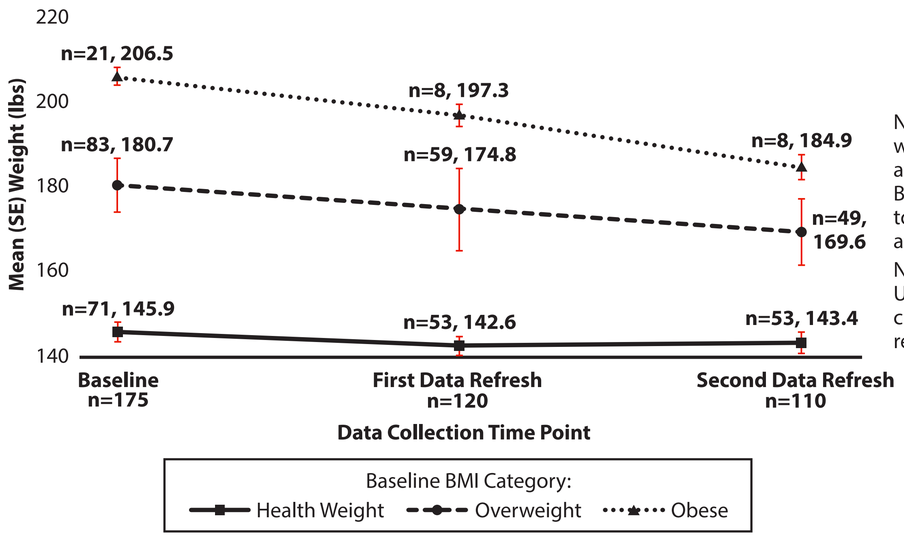
- Overall, cytokine release syndrome (CRS) occurred in 36.9%, immune effector cell-associated neurotoxicity syndrome (ICANS) in 6.3%, infections in 20.5% of patients. Additionally, 33.0% (n=58/176) experienced adverse events of special interest (AESI) comprising dry mouth, dysgeusia, dysphagia, fatigue and loss of appetite.
- In the USPI cohort, CRS occurred in 33.7%, ICANS in 5.3%, and infections in 22.1% of patients; AESI occurred in 19.0% (**Table 3**).
- At the first data refresh, mean (SD) weight change from baseline was -2.8% (6.3) among 120 patients; 70.0% experienced weight loss, 23.3% weight gain, and 6.7% no change.
- At the time of the second data refresh, mean (SD) percentage weight change from baseline was -3.6% (9.0) among 110 patients; 70.0% experienced weight loss, 24.6% weight gain, and 5.5% no change.
  - Weight reduction was greatest and more frequent among patients with higher baseline BMI (**Figure 4**).

Table 3: Adverse Events

	All Patients N=176	USPI Cohort n=95
CRS, n (%)*	65 (36.9)	32 (33.7)
Grade 1	42 (23.9)	26 (27.4)
Grade 2	20 (11.4)	6 (6.3)
Grade 3	2 (1.1)	0 (0.0)
Grade 4	1 (0.6)	0 (0.0)
ICANS, n (%)*	11 (6.3)	5 (5.3)
Grade 1	9 (5.1)	5 (5.3)
Grade 2	1 (0.6)	0 (0.0)
Grade 3	1 (0.6)	0 (0.0)
Infections, n (%)*	36 (20.5)	21 (22.1)
Grade 1	13 (7.4)	10 (10.3)
Grade 2	17 (9.7)	9 (9.3)
Grade 3	5 (2.8)	1 (1.0)
Unknown	1 (0.6)	1 (1.1)
GPRC5D-related AEs		
Ataxia	0 (0.0)	0 (0.0)
Dry mouth	36 (20.5)	12 (12.6)
Dysgeusia	35 (19.9)	13 (13.7)
Dysphagia	5 (2.8)	2 (2.1)

*Highest grade according to CTCAE.
AE=Adverse events; CRS=Cytokine Release Syndrome; ICANS=Immune Effector Cell-Associated Neurotoxicity Syndrome; GPRC5D=G protein-coupled receptor class C group 5 member D

Figure 4: Mean Weight by Baseline BMI category



Note: Figure 4 depicts the mean weight at baseline, first data refresh, and second data refresh by baseline BMI category: Healthy weight (18.5 to <25.0), Overweight (25.0 to <30.0) and Obese (≥30).

Note: n=1 patient met the Underweight BMI Category (<18.5) criteria at baseline but did not have refresh data.

Limitations

- This retrospective chart review was dependent on the completeness and accuracy of documentation available in the electronic medical record.
- CRS and ICANS occur primarily during step-up dosing, often performed at academic centers, and may therefore be underestimated by abstracting community physicians.
- Longitudinal follow-up was limited to patients whose physicians remained in OPEN and participated in subsequent data refreshes.
- Response outcomes were analyzed among patients with available data and may be subject to under-ascertainment if not consistently documented in routine clinical practice.
- Analyses were descriptive and not intended to support formal comparisons between cohorts.

Conclusions

- **In this real world study conducted primarily in US community oncology settings, TAL demonstrated meaningful clinical activity with robust response rates and encouraging survival estimates in the RRMM population.**
- **Outcomes remained favorable among patients treated according to USPI criteria and were generally consistent with those observed in clinical trials.**
- **Most pts remained alive and on TAL at the end of follow-up (median: 14.9 months), with manageable safety findings and low rates of AE-related discontinuation.**
- **Continued follow-up will further inform the long-term effectiveness and safety of TAL in routine clinical practice.**

References

1. United States Food and Drug Administration. FDA grants accelerated approval to talquetamab-tgvs for relapsed or refractory multiple myeloma. 2023. https://www.fda.gov/drugs/resources-information-approved-drugs/fda-grants-accelerated-approval-talquetamab-tgvs-relapsed-or-refractory-multiple-myeloma.
2. Chari A, Touzeau C, Schinke C, et al. Safety and activity of talquetamab in patients with relapsed or refractory multiple myeloma (MonumenTAL-1): a multicentre, open-label, phase 1-2 study. *Lancet Haematol*. Apr 2025;12(4):e269-e281. doi:10.1016/S2352-3026(24)00385-5.
3. Rasche L, Schinke C, Touzeau C, et al. Talquetamab in patients with relapsed/refractory multiple myeloma: 3-year follow-up of the phase 1/2 MonumenTAL-1 study. *Blood*. 2026 Aug 6:blood.2025031994. doi: 10.1182/blood.2025031994. Epub ahead of print. PMID: 42561120.

Acknowledgements

The authors would like to thank all investigators, data contributors, and patients involved in the study.

Presented at: International Myeloma Society 23rd Annual Meeting & Exposition
September 23 - 26, 2026 - Glasgow, Scotland

Email: darren.pan@ucsf.edu (corresponding author)

Funding: This research was funded by Johnson & Johnson