

Background

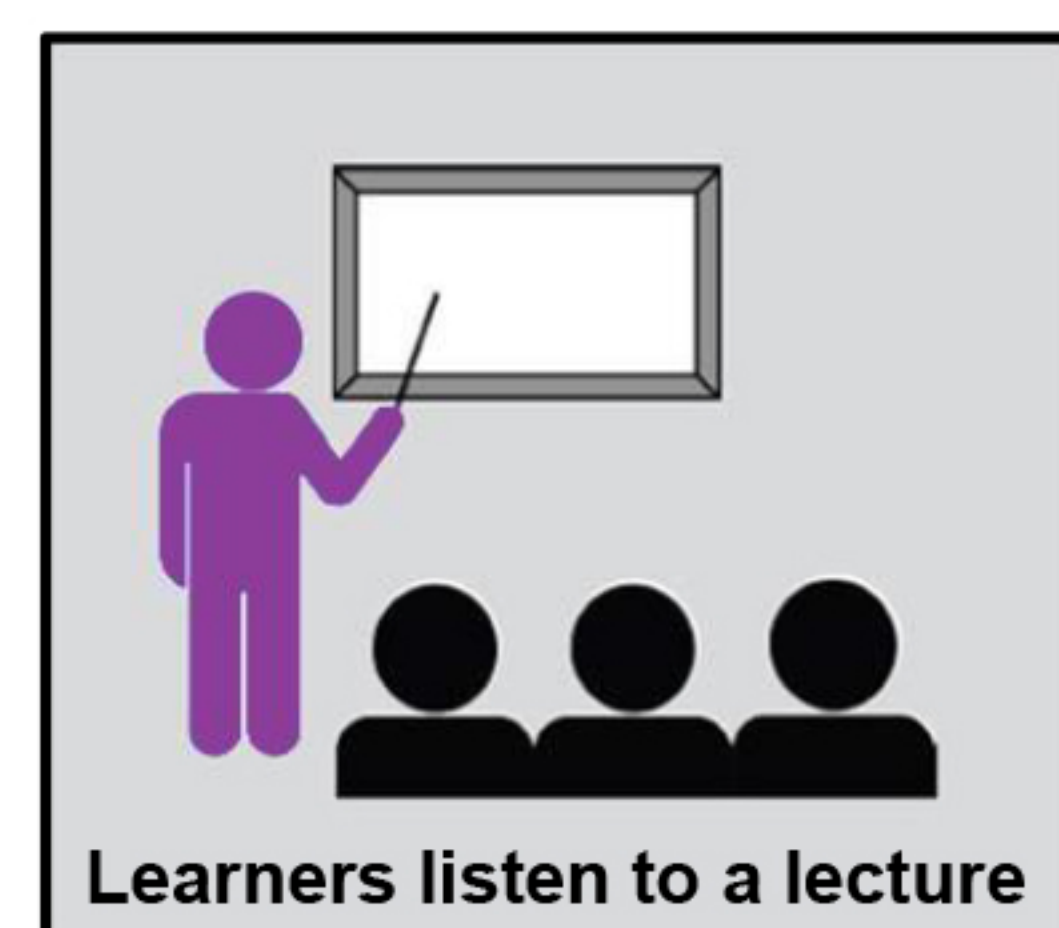
The flipped classroom is an innovative new teaching model which is especially applicable to oncology nursing education, where an understanding of rapidly evolving clinical data must be combined with practical management of patients.^[1] Clinical Care Options piloted a flipped classroom program titled, “Nursing Considerations in the Care of Patients with Multiple Myeloma (MM),” designed with self-directed online pre-work that allows nurses to build a foundational knowledge of MM and improve their mastery of clinical skills. This preparation permits them to maximize learning opportunities with nursing experts in a subsequent live education setting.

Methods

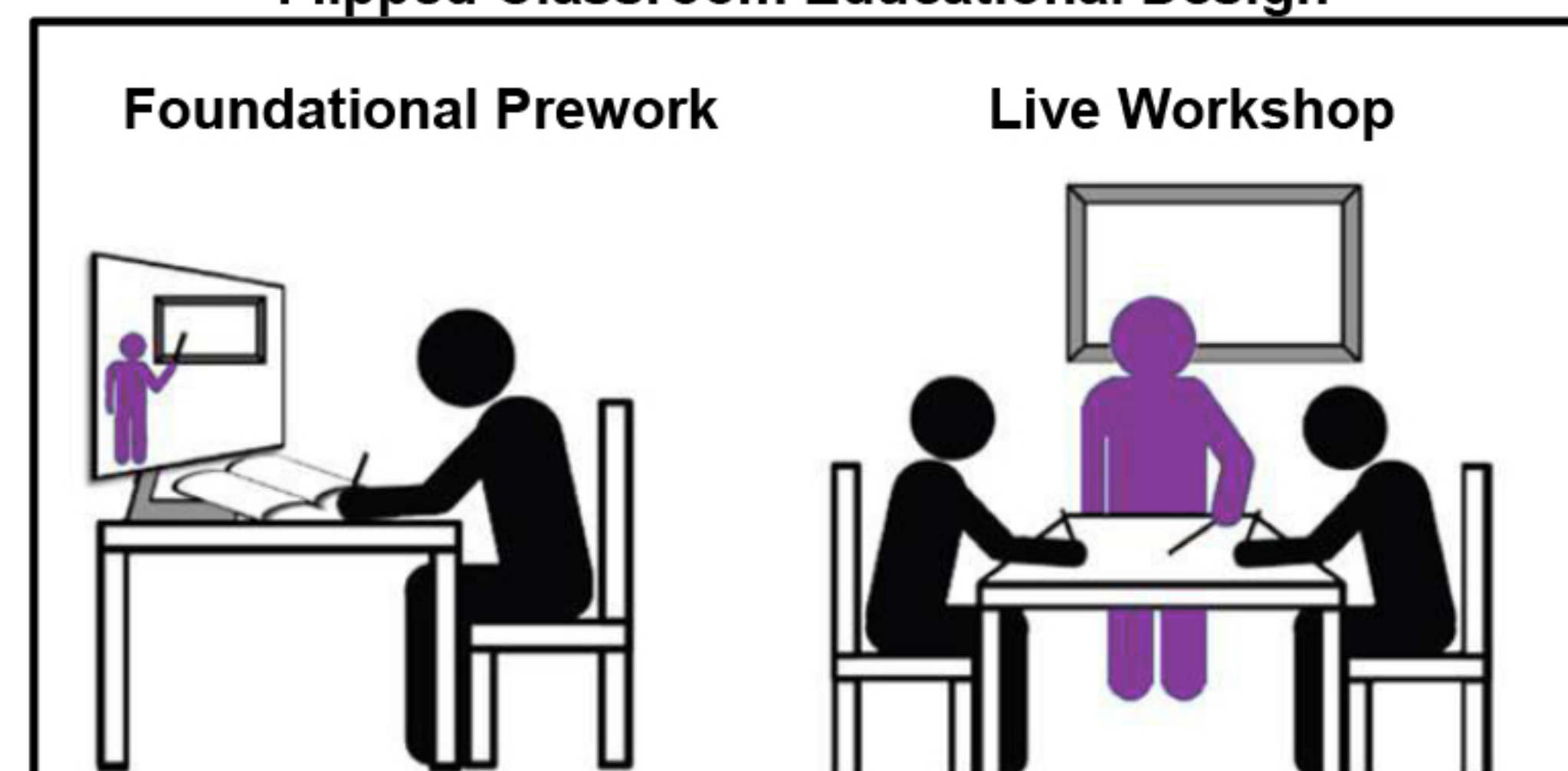
- Foundational education (prework): 4 interactive, CE-certified online video segments
 - Video Faculty: Beth Faiman, PhDc, MSN, APRN-BC, AOCN; Sandra E. Kurtin, RN, MS, AOCN, ANP-C; Patricia Mangan, APRN, BC, Joseph D. Tariman, PHD, ANP-BC
- Live educational component included 1 hour live workshop, conducted at local and regional nursing meetings
 - Live Faculty (in addition to above): Page Bertolotti, RN BSN, OCN; Kathleen Colson, RN, BSN, BS; Teresa Miceli, RN, BSN, OCN; Tiffany Richards, MS, ANP-BC, AOCNP
- Workshops allowed nurses the opportunity to apply information from foundational work activities to clinically relevant cases
- Participants received a reference sheet containing key information to reinforce foundational concepts for those who completed foundational work and as an aid for those who did not complete the foundational prework

What is a Flipped Classroom?

Traditional Educational Design



Flipped Classroom Educational Design



Learners complete a foundational online activity prior to a live workshop

Learners are prepared to apply key clinical concepts as part of an interactive workshop with an expert and colleagues

Results

Participant Demographics: Online Activity

- 1132 total unique users accessed the foundational education videos (July 2013 to March 2015)

User Degree and Country, %				
	Nurses	Midlevel	Physicians	Other
Overall (n = 1132)	41	2	34	23
• US (n = 571)	68	4	9	19
• Non-US (n = 412)	4	--	59	37

Participant Demographics: Live Workshops

- 222 US clinicians attended one of the live programs with 177 evaluations collected

Attendees by Degree, %				
	Nurses	Midlevel	Physicians	Other
Overall (n = 222)	94	2	0	4

Participants Completing Foundational Education Activity

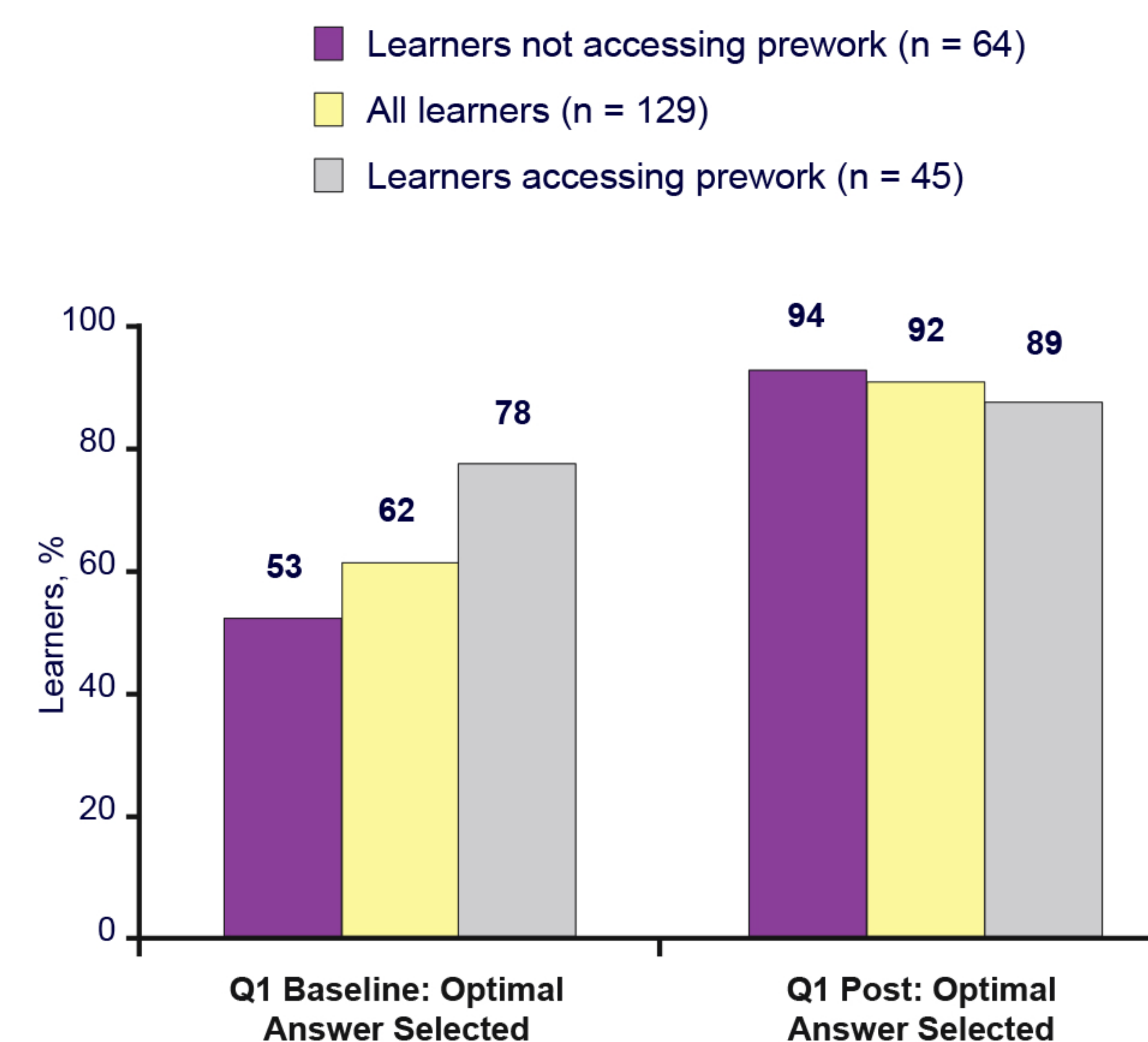
- 45% who attended live meeting also completed foundational work

Did you review the 4 online videos that were required for participation in this live meeting? (n = 164)

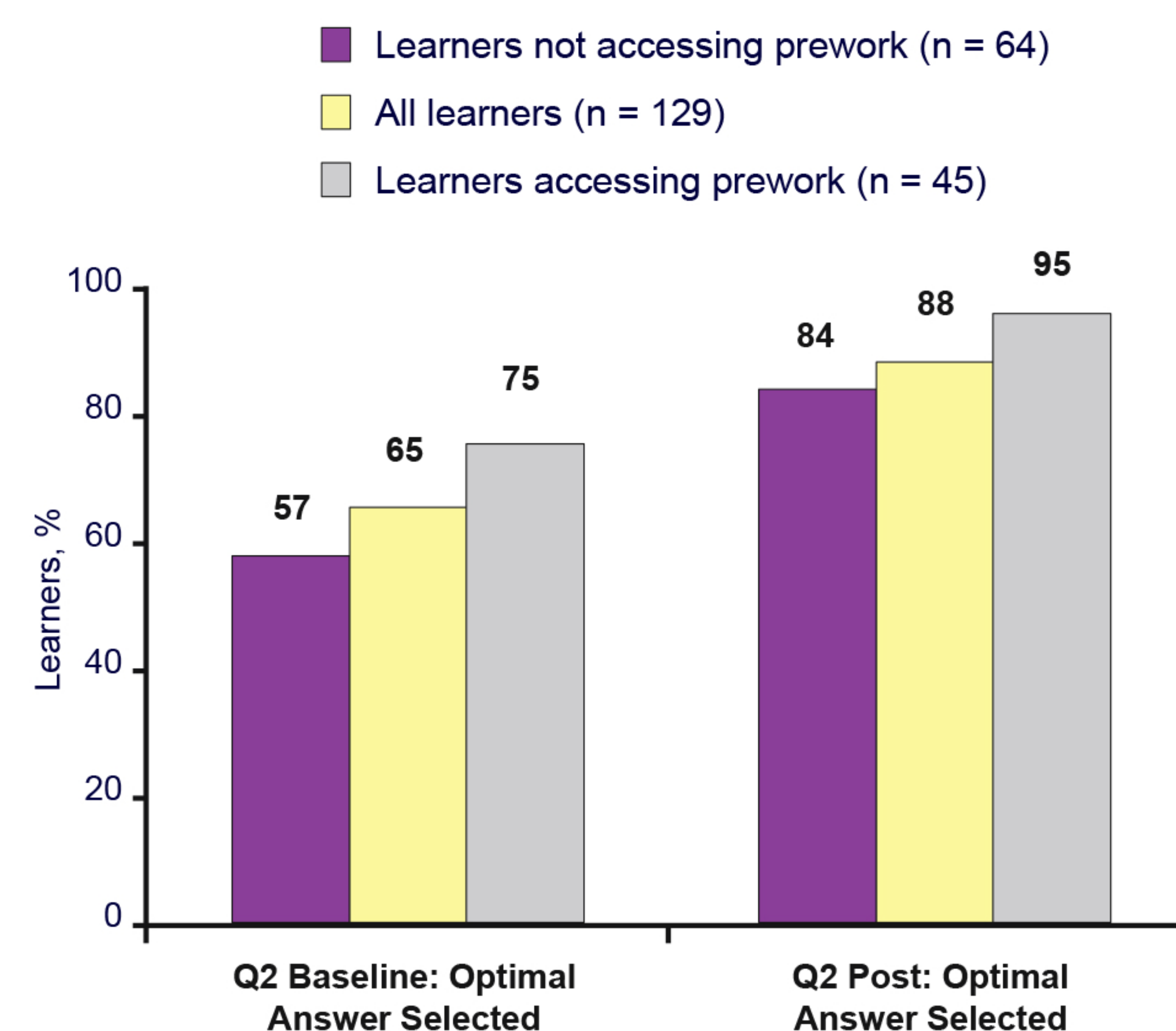
Yes	45%
No	55%

Impact of Completing Foundational Prework on Live Workshop Learning Objectives

Objective: Identify the treatment options available to patients with multiple myeloma based on the stage of the disease and patient-specific considerations



Objective: Assess patients for adverse effects associated with various agents and combination regimens in multiple myeloma and provide management strategies as appropriate



Participant Responses: How Did This Educational Program Affect Your Practice?

Educational Impact (n = 1132)	Overall
I do plan to implement changes in my practice based on the information presented	24%
My current practice has been reinforced by the information presented	70%
I need more information before I will change my practice	6%

- Median of ~ 15 patients per clinician was reported as being positively affected by the learners' participation in one or both of these activities
- Extrapolation of this value to the total number of healthcare provider participants (N = 1181) indicates that ~ 17,000 patients may have been positively affected by this educational program to date

Conclusions

- Nearly 50% of workshop participants completed foundational prework
- Learners who completed the online foundational prework were better prepared to answer questions related to program objectives prior to participating in the live workshop
- Overall, this activity had an extremely positive impact on learners
- Limitations:
 - No substantial differences in post —education scores
 - All workshop participants were provided with a reference sheet
 - No prior assessment of learning style
 - Participant numbers did not allow for statistical analysis between groups
 - Difficult to analyze workshop participants who did not indicate whether they completed online foundational prework
- Future recommendations:
 - Include an evaluation question to determine if completing foundational work affected overall satisfaction with the program
 - Establish whether foundational prework contributed to more meaningful discussion and clinical application during the live workshops
 - Determine reasons for completing or not completing the online foundational prework activity