

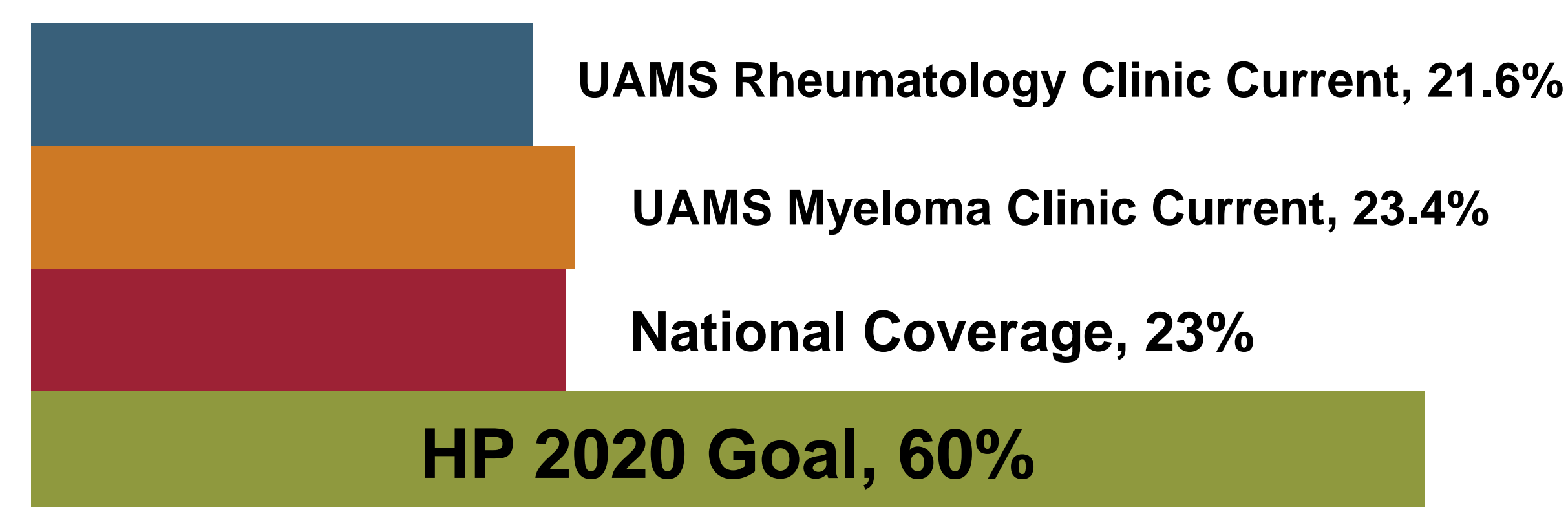
Health Literacy, Quality Improvement, and Continuing Education

Collaborate to Improve Pneumococcal Vaccine in Immunocompromised Adults

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Introduction and Abstract

Immunocompromised adults are at increased risk for serious illness and death from pneumococcal disease (PD), but national vaccination coverage is at only 23.0%,¹ far short of the Healthy People 2020 goal of 60%.² Patients treated in the Rheumatology and Multiple Myeloma clinics at an academic medical center had even less protection at 21.6 to 23.4%.³



A multidisciplinary team embarked on a quality improvement (Qi) project to improve vaccination rates to protect vulnerable patients from PD. The team included physicians trained in quality improvement methodology and professionals in continuing education and health literacy.

Key activities included:

- ✓ Systems changes
- ✓ Patient education: plain language, theory-driven, English and Spanish
- ✓ Provider education: live and enduring

Immunization rates increased significantly in the 2 clinics where the intervention was tested. As efforts are spread across the academic health system, thousands more immunocompromised patients from these and additional clinics will be better positioned to protect themselves from severe pneumococcal infection.

Methods

Systems changes:

- ✓ Procured refrigeration and vaccine supplies
- ✓ Integrated best practice advisory in electronic medical record

Patient education:

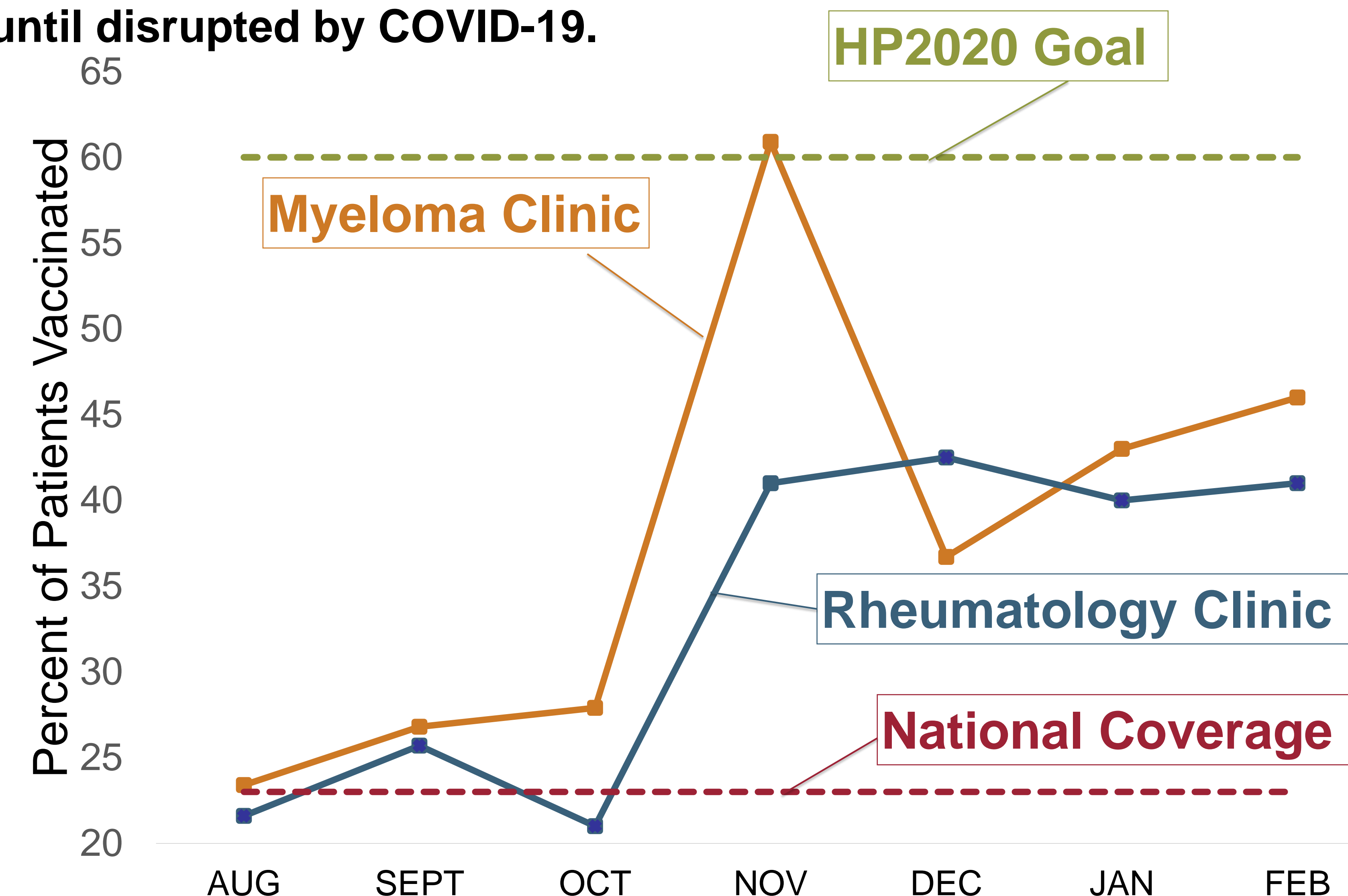
- ✓ Used Health Belief model as guide for content (perceived risk, severity of disease, perceived barriers and benefits to vaccination)
- ✓ Formally tested with validated readability formulas, the Patient Education Materials Assessment Tool, and 3 field testing sessions inclusive of English and Spanish speakers with documented risk for limited health literacy

Provider education (licensed clinicians and trainees):

- ✓ Focused on reinforcement of national guidelines for vaccine administration in this patient population and an introduction to new patient education resources
- ✓ Included live session during regular series and recording
- ✓ Offered continuing education credits

Results (Vaccination Rates)

Rates of vaccine protection nearly doubled in a 6-month period, going from 21.6% to 41% in the Rheumatology Clinic and from 23.4% to 46% in the Myeloma Clinic and continued to increase until disrupted by COVID-19.



Significance

National vaccination rates for immunocompromised patients are highly undesirable, leaving vulnerable patients at risk for severe PD with potential for complications including death.

Comprehensive efforts to protect patients through pneumococcal vaccines are warranted and can yield tremendous results, both for individual patients and for health systems who are increasingly focused on patient behaviors (like vaccine uptake) to improve health and experience while curbing costs. This project included systems changes, provider education, and patient education designed in accordance with health behavior theory and plain language best practices using expertise of QI-trained clinicians, continuing education providers, and health literacy professionals.

Our team's approach can be replicated by others who aim to advance uptake of pneumococcal vaccination. Approximately 10 million American adults are considered immunocompromised and would benefit from widespread launch of similar programming.⁴

Acknowledgments

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References

- ¹ Williams WW, Lu P, O'Halloran A, et al. Surveillance of Vaccination Coverage among Adult Populations — United States, 2015. *MMWR Surveill Summ* 2017;66(No. SS-11):1–28.
- ² <https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives>
- ³ Institutional data, University of Arkansas for Medical Sciences
- ⁴ <https://jamanetwork.com/journals/jama/fullarticle/2572798>