

Introduction

Pneumococcal vaccination and seasonal influenza vaccination lower the risk of hospitalization and death in dialysis patients. Patients who receive both vaccines show the lowest risk. We implemented a 3-year systematic effort to improve vaccination rates among dialysis patients using an integrated care intervention model. This was a synergistic effort between the patient care team, operational leadership, and information technology (IT). **We assessed the improvement in vaccination rates among dialysis patients.**

Methods

- Clinical leadership recommended these goals:
 - 90% of patients to receive pneumococcal vaccination (1x in past 5 years or 2x in lifetime), and
 - 90% of patients to receive seasonal influenza vaccination (annually).
- In September 2008, operational leadership:
 - assigned a high priority to the effort,
 - coordinated communications and management,
 - provided implementation resources,
 - applied process engineering approaches to identifying barriers and best practices, and
 - assured an adequate vaccine supply (Figure 1).
- IT systems were developed to report facility performance and identify unvaccinated patients in real time.
- Facility interdisciplinary care teams used teaching tools and daily exception reports during the flu vaccination season.
- Both adult and pediatric patients were included in the analysis (Table 1). From 2006-07, only hemodialysis (HD) patients were included; from 2008-11 all modalities were included in the analysis.

Figure 1. Comprehensive System of Immunization

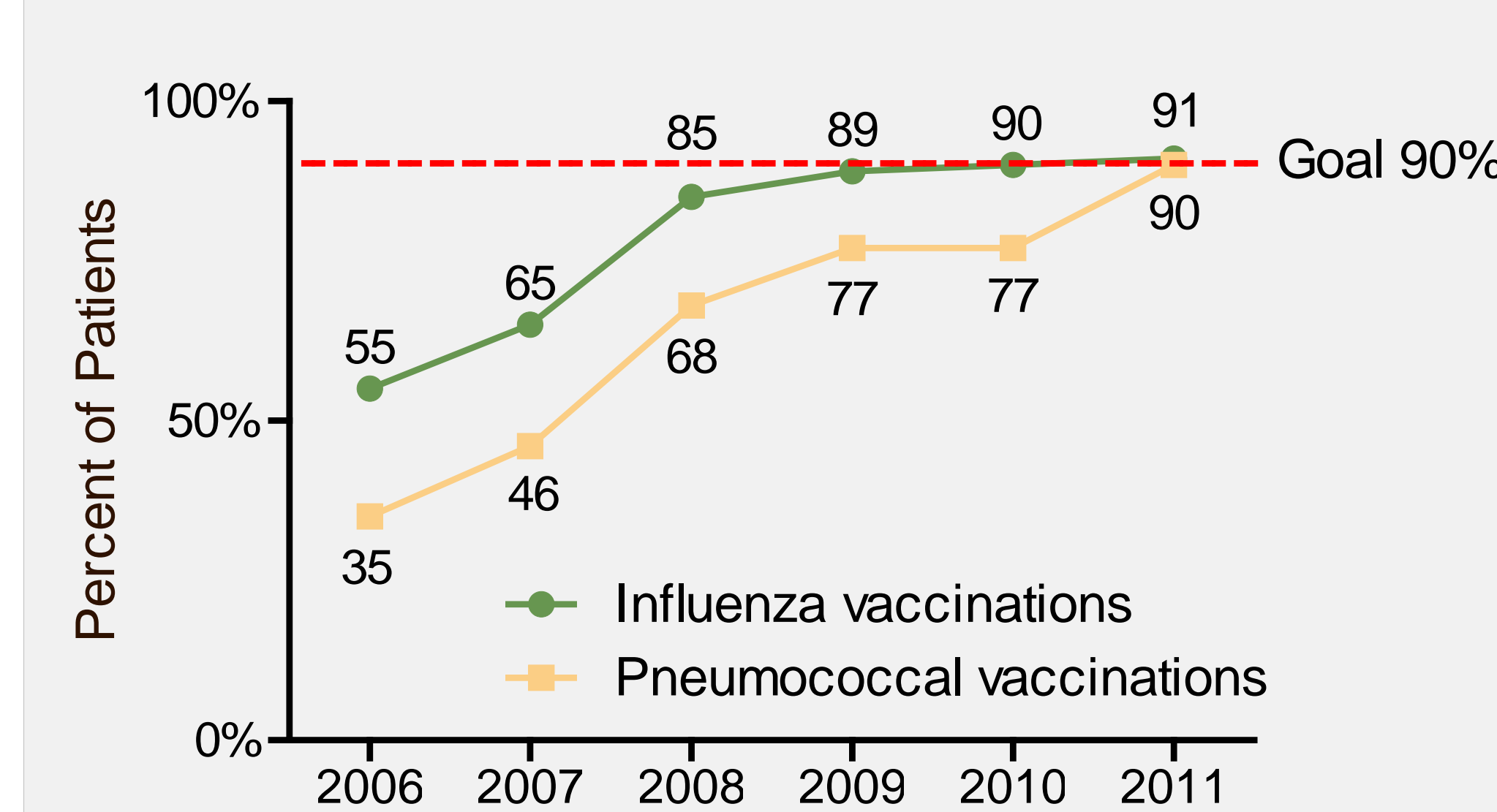


Table 1. Demographics

Mean ± SD	Patients
N	127,626
Mean age ± SD (yr)	60.9 ± 15.4
% Male	55.8%
Race and Ethnicity	
% African American	36.4%
% Hispanic	16.4%
% Asian, Pacific Islander	4.3%
% Native American	1.4%
% Unknown	0.1%
% with Diabetes	43.8%
Mean vintage ± SD (yr)	3.7 ± 3.7
BMI ± SD	28.0 ± 7.2

Includes both adult and pediatric patients, all modalities. As of March 31, 2011

Figure 2. Annual Vaccination Rates



Results from 2006 and 2007 contain data from only HD patients. Results from 2008-2011 represent HD, peritoneal dialysis, and home hemodialysis patients.

Results

- Vaccination rates in the population of ~120,000 patients improved progressively during the intervention period.
- By March 31, 2011, the goal of 90% seasonal and pneumococcal vaccination rate was exceeded (Figure 2).
- The percent of patients who declined influenza vaccination for allergy was very low (0.6% in 2010).

Conclusions

- Integrated care affords the ability to align incentives, communicate consistently, report comprehensively, and standardize care between patient care teams and operational leadership.
- Our results show a dramatic improvement in vaccination rates within a large population of dialysis patients which may reduce the health care resource burden from influenza and pneumonia in this high-risk population.

Our sincere appreciation to the teammates in more than 1600 DaVita clinics who work every day to take care of patients but also to ensure the extensive data collection on which our work is based. We thank DaVita Clinical Research® (DCR®), and specifically acknowledge Lesley Smith, MA and Karen Spach, PhD of DCR for editorial contributions in preparing this poster. DCR is committed to advancing the knowledge and practice of kidney care.

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American Society of Nephrology, Nov 8-13, 2011; Philadelphia, PA