

# Improvement in Diabetes Care and Immunization Rates with a Disease Management Program in End-Stage Renal Disease Patients

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## INTRODUCTION

Both infections and complications from diabetes lead to poor outcomes in ESRD patients. Disease management (DM) programs may be effective ways to ensure vaccinations are administered to prevent pulmonary infections and improve diabetes care. We evaluated the impact of a DM program on pneumococcal and influenza vaccination rates and diabetes processes of care.

## METHODOLOGY

- VillageHealth® (VH) is a subsidiary of DaVita that provides disease management services to patients with kidney disease. Since 2006, VH has participated in the Medicare End Stage Renal Disease (ESRD) Disease Management Demonstration. This demonstration, implemented by CMS, studied the impact of DM by a DM organization in Medicare Advantage ESRD patients on clinical, patient-centered outcomes (Table 1).
- Each VH patient had a comprehensive care plan tailored for his or her specialized needs and a VH nurse (VHN) who helped coach, counsel, and coordinate care, including preventive care and the management of diabetes and vaccinations (see Outline).
- The impact of VH disease management was assessed by comparing outcomes for patients in the Medicare demo project to all Medicare ESRD fee-for-service (FFS) patients (from the 2008-2009 United States Renal Data System (USRDS) Annual Data Report).

## RESULTS

Table 1. ESRD DM Demonstration VillageHealth Patient Demographics (2006-2009)

Mean ± SD	VillageHealth Patients
N	894
Age (yr)	56 ± 13
% Male	62%
<i>Race and Ethnicity</i>	
% African American	17%
% Asian, Pacific Islander	3%
% Native American	0.5%
% Unknown	10%
% Hispanic	56%
% Diabetic	63%
Vintage (yr)	4 ± 3

### Selected Responsibilities of VH Nurses

- I. *Diabetes Management*
  - A. Track frequency of foot and retinal exams
  - B. Conduct foot exams when appropriate
  - C. Coach patients on importance of daily self-checks
  - D. Track LDL and HbA1c levels
- II. *Vaccinations*
  - A. Track patient's immunization history and identify those needing a vaccination
  - B. Educate patients to increase immunization acceptance
  - C. Work to ensure availability of vaccines

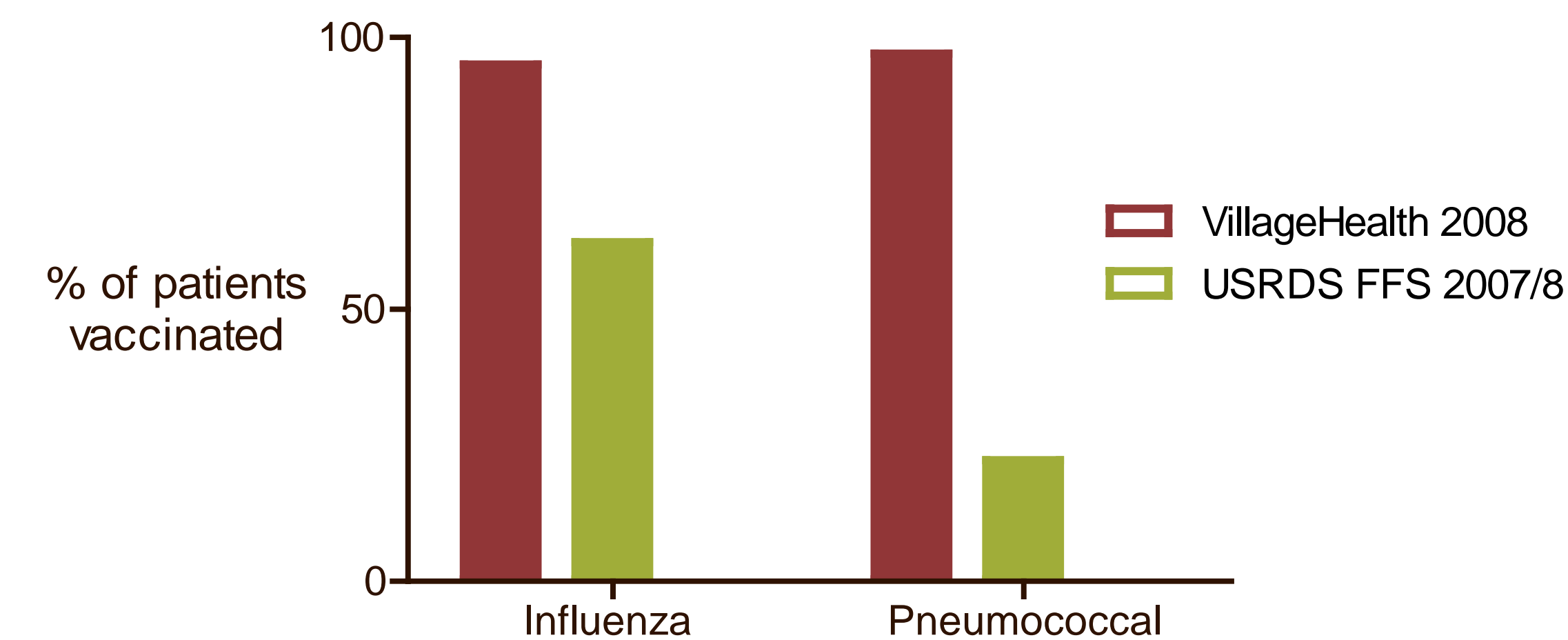


Figure 1. Vaccination rates in VillageHealth compared to USRDS Annual Data Report

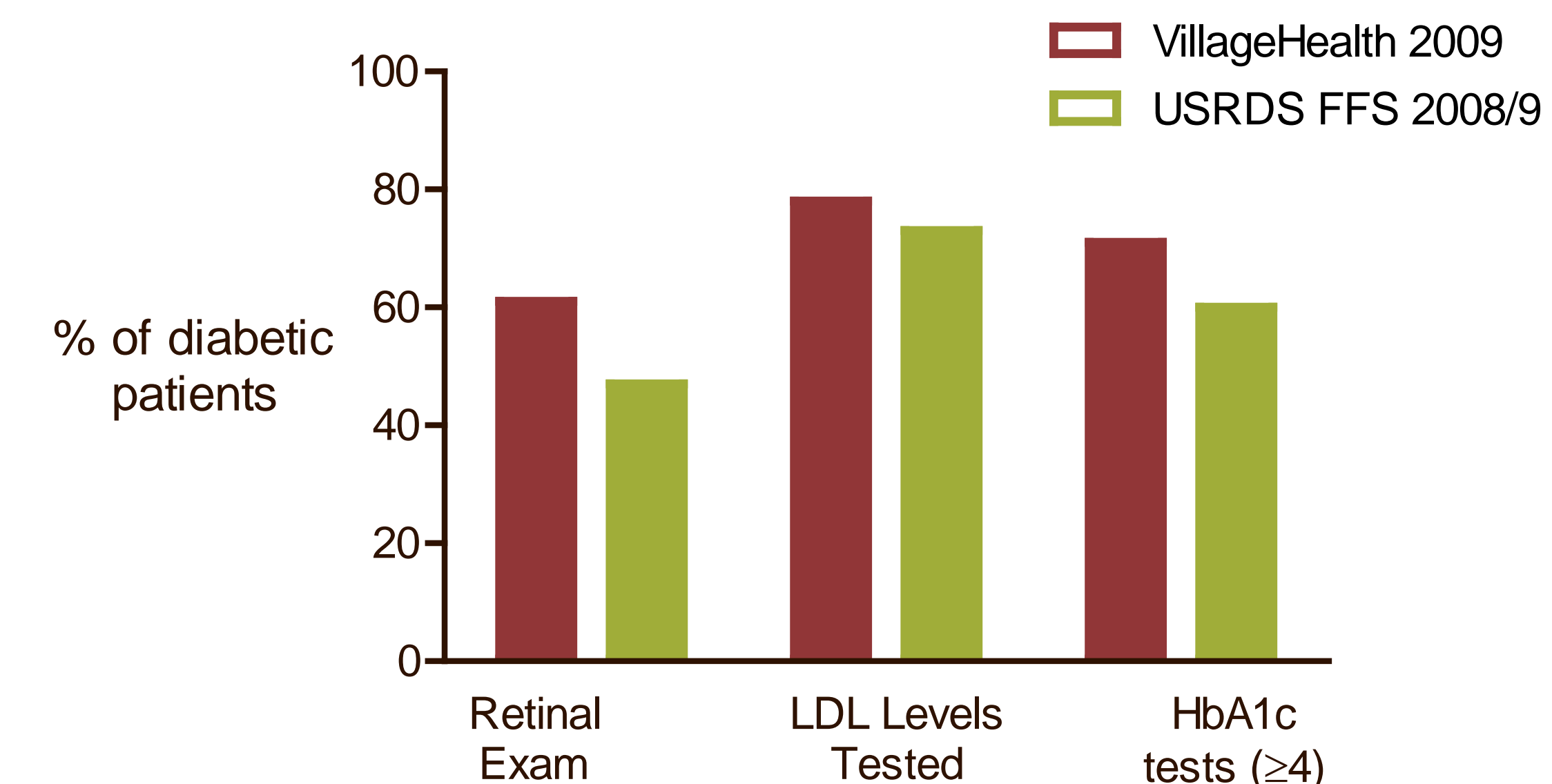


Figure 2. Diabetic Care in VillageHealth compared to USRDS Annual Data Report

## SUMMARY of RESULTS

- From the beginning of 2006 to the end of 2009, 894 patients enrolled in VH (Table 1).
- Immunization rates increased after program initiation, rising to a 95% annual influenza vaccination rate in 2009.
- For pneumococcal vaccination, the 2008 VH rate exceeded the USRDS FFS comparison of 22.3% for 2007-2008 (Figure 1).
  - In 2009, the pneumococcal vaccination rate was 97%.
- In 2009, more VH diabetic patients received retinal exams, low density lipoprotein levels testing and ≥4 HbA1c tests compared to USRDS FFS patients (Figure 2).

## KEY LEARNINGS

- ✓ Within the VH program, DM led to increased rates of influenza and pneumococcal immunizations and improved diabetes care processes.
- ✓ In both categories, the VH DM program rates exceeded rates in the FFS population.

We express our sincere appreciation to the teammates in our nearly 1600 clinics who work everyday not only to take care of patients but also to ensure the extensive data collection on which our work is based. We thank DaVita Clinical Research® for support in preparing this poster. DCR is committed to advancing the knowledge and practice of kidney care.

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