

Identifying Common Causes and Practical Solutions for Decreasing Central Venous Catheter Dependence for Hemodialysis Access

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INTRODUCTION

The Centers for Medicare and Medicaid Service (CMS) Fistula First Initiative encourages increased use of arteriovenous fistulae (AVF) and decreased dependence on central venous catheters (CVC). To lower CVC rates and further increase AVF rates, DaVita® implemented a vascular access improvement and education program. We specifically sought information to identify the most common barriers to CVC removal and to create, implement and measure teammate training tools.

METHODOLOGY

Phase 1 – identify most common barriers to CVC removal

- Surveyed 953 facilities and assessed reasons for continued use of CVCs in March 2010
- 9,597 patients surveyed to identify barriers to CVC removal delay

Phase 2 – understand how common barriers can be successfully overcome

- Surveyed DaVita high-performing facilities
- Developed action planning tools to learn how common barriers can be overcome successfully

Phase 3 – Implement and measure teammate training tools

- Distributed barrier-identification and action-planning tools to each dialysis facility

RESULTS

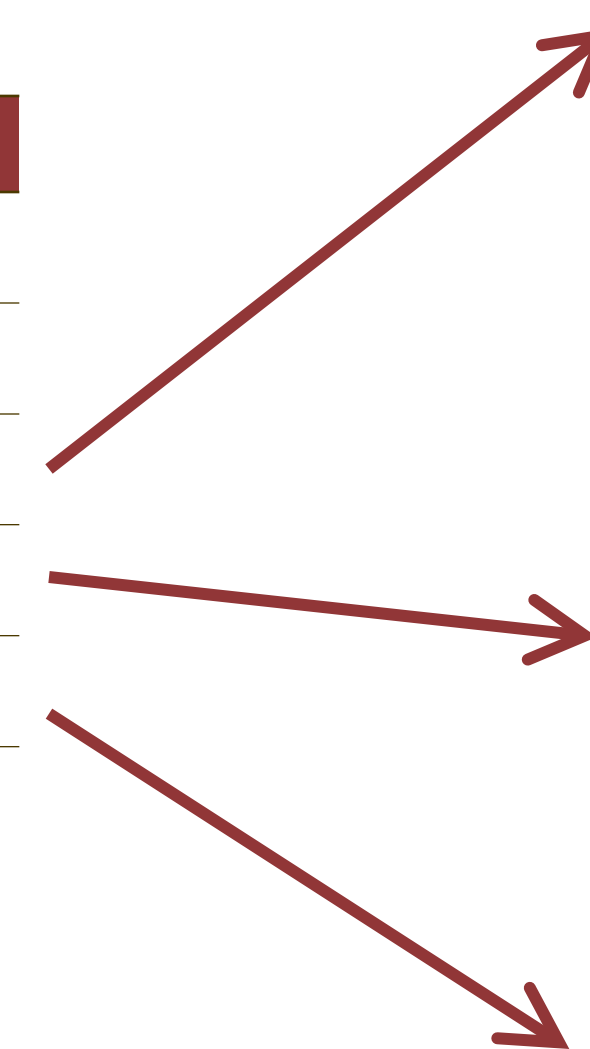
Table 1. Most Common Barriers to CVC Removal

Barrier	% of Total
Patient (refusals, non-adherence)	25.2%
Fistula not maturing (not meeting KDOQI "Rule of 6's")	15.8%
New admission with CVC-only	16.0%
Nephrologist believes patient not candidate for AVF surgery	11.0%

Four barriers represent 68% of total CVC removal delays

Table 2. Tools Developed to Build Teammate Competencies to Overcome Barriers to CVC Removal

Tools Developed
CathAway 7 Steps and CVC One Stop
Vascular Access Manager
Expert Cannulator
Life Preserver: social worker toolkit
IMPACT



Expert Cannulator

- Builds clinical teammate competencies in assessing and cannulating new AVF/G
- Helps recognize warning signs of complications for early intervention to prevent AVF/G failures
- Create patient "Gift Bag (of minimal value)" celebrating new AVF/G
- Teach patients to recognize complications early

Social Work Toolkit

- Teach to recognize patient refusal and non-compliance tactics
- Provides patient relaxation and guided imagery techniques
- Facilitates appointment adherence
- Provides information on transportation options

IMPACT

- Tool deployed to facilities to address CVC removal in the first 90 days

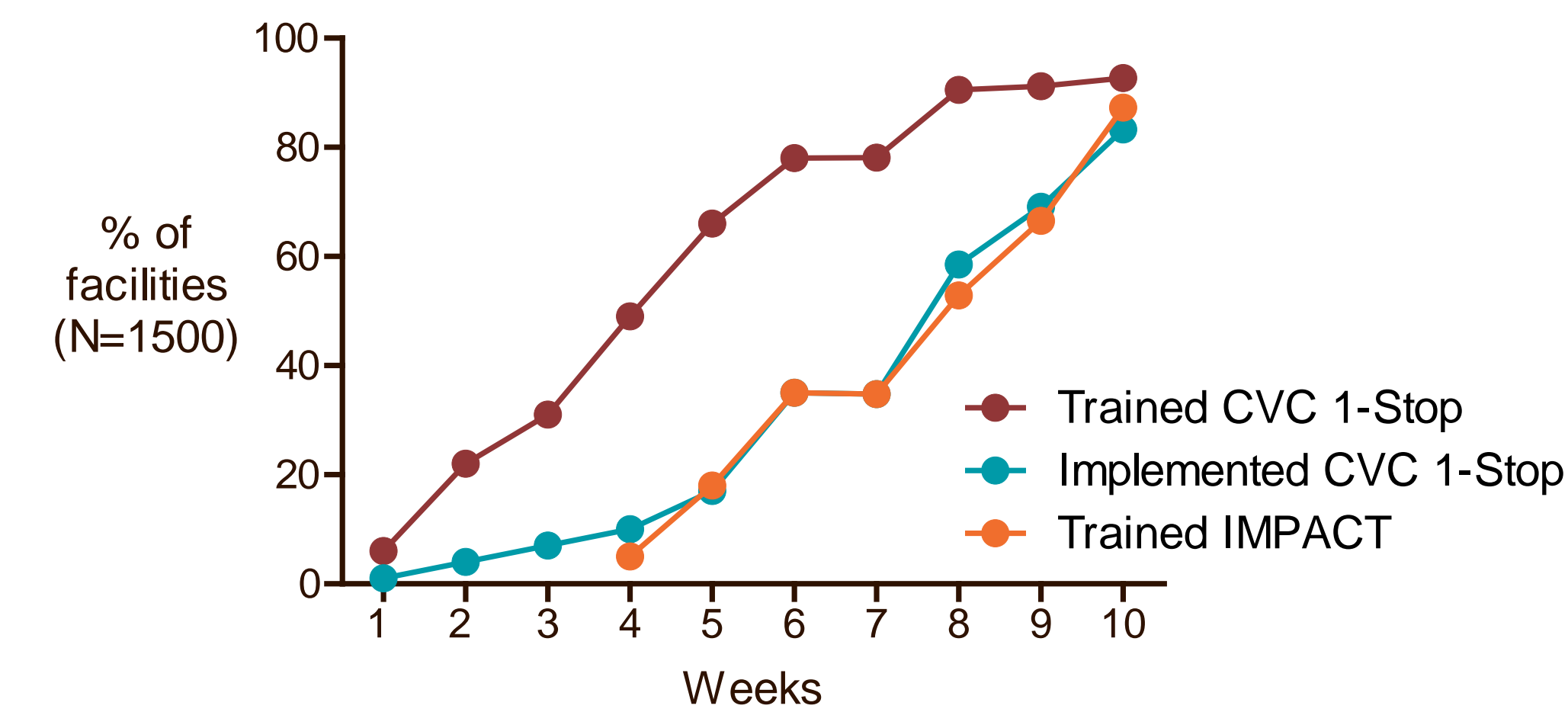


Figure 1. Teammate Training

CONCLUSIONS

- Over half of the most common barriers to CVC fell into 4 categories (Table 1).
- Tools were developed to overcome these barriers based on surveys of high-performing facilities (Table 2).
- The majority of teammates received training for the tools within 10 weeks of tool launch (Figure 1).
- In the 12-month period between Dec 2008 and Dec 2009 after implementation of these tools:
 - Achieved a 3% decrease in CVC rates which was a 11% improvement in 2009
 - AVF use increased from 52.7% to 55.0%

KEY LEARNINGS

- ✓ Systematic programs to improve vascular access management can be successful when coupled with appropriate tools to identify and overcome commonly encountered barriers.

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