

Quality Improvement Redesign Impact Analysis

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Network 11 Medical Review Committee Chair

Why is monitoring of the ESRD
Program important?

Overarching Impact ESRD Program vs. Overall Medicare Program

- Medicare expenditures for ESRD patients represents 6.4% of the overall Medicare budget
- ESRD patients represent 1.1% of general Medicare population

USRDS 2006 data

ESRD Patients in the USA

All chronic dialysis patients	379,762
Kidney transplant recipients	<u>167,022</u>
Total ESRD patients in USA	546,784

Standardized Information Management System
as of August 21, 2009

Overarching Impact Business Case for ESRD Networks

- ESRD Networks are self-funded by 50 cents per dialysis treatment

Annual Cost

- | | |
|------------------------------|---------|
| • Cost for ESRD Networks | \$30 M |
| • Overall ESRD Program Costs | \$22.7B |
- ESRD Networks portion of the ESRD Program is 0.13%

ESRD Network Services

- Quality improvement
- Beneficiary complaints and grievances
- ESRD Patient registry
- ESRD Provider directory

- Focus today is quality improvement

Networks Share the CMS Goal

Ensure the right care
for every person
every time

Networks Strive to Address Institute of Medicine Aims for Health Care

- Patient-Centered
- Effective
- Safe
- Efficient
- Equitable
- Timely

Institute of Medicine Definition of Quality

“The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”

ESRD Networks Spectrum of Responsibility

Spectrum

- Patient Protection
- Technical assistance
- Quality Improvement

Impact

- Individuals
- Hundreds
- Hundreds of thousands

QI Design Process

- Identify problems, select topics
- Root Cause Analysis
- Design QI plan
 - Methods (PDCA, Failure Mode and Effects Analysis, Reduction in Failure Rate, FOCUS, Measure/Intervention, Re-measure)
 - Interventions
 - Evaluation (effort, time, costs, impact on patients, impact on health system)

Examples of Interventions

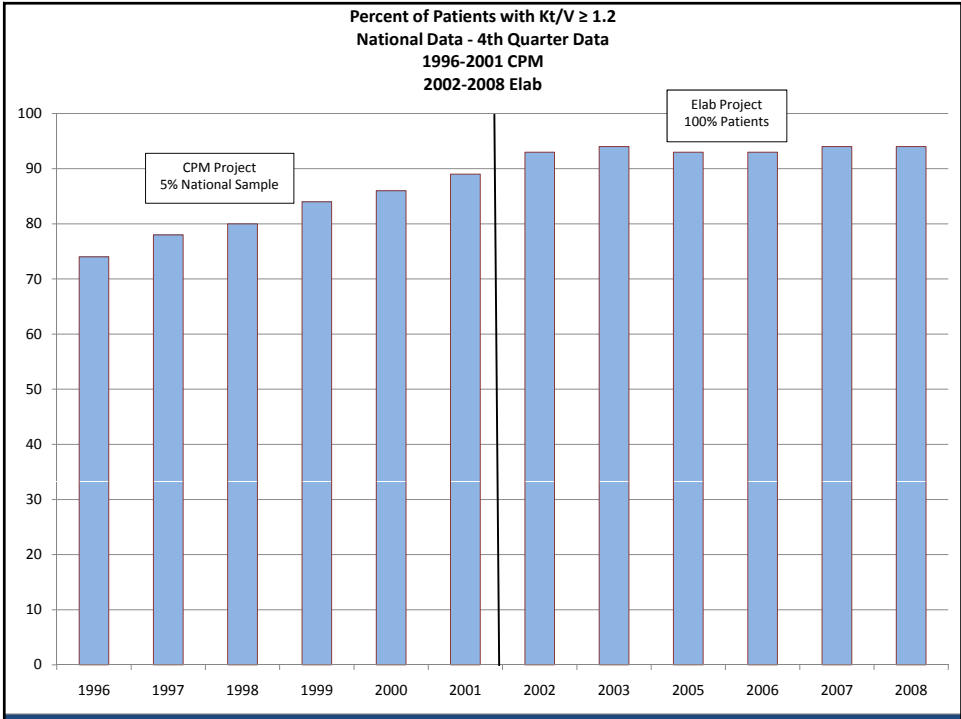
- Conduct focused reviews (on-site or off-site)
- Convene workshops
- Share best practices
- Monitor routinely (labs, QI minutes)
- Coordinate collaboratives
- Educate (patients and professionals)
- Organize coalitions

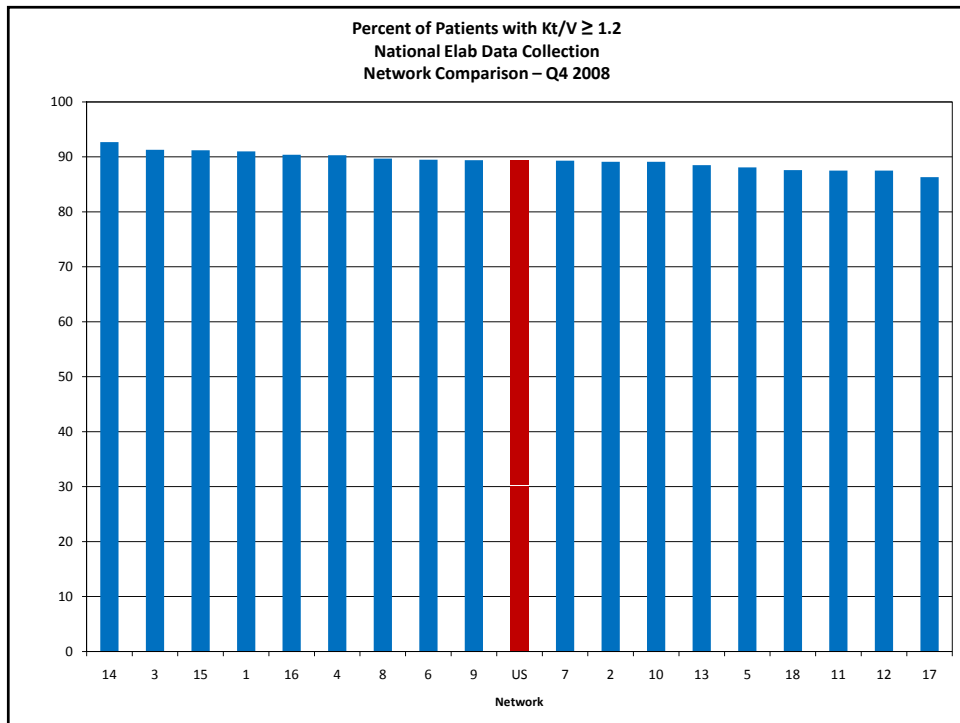
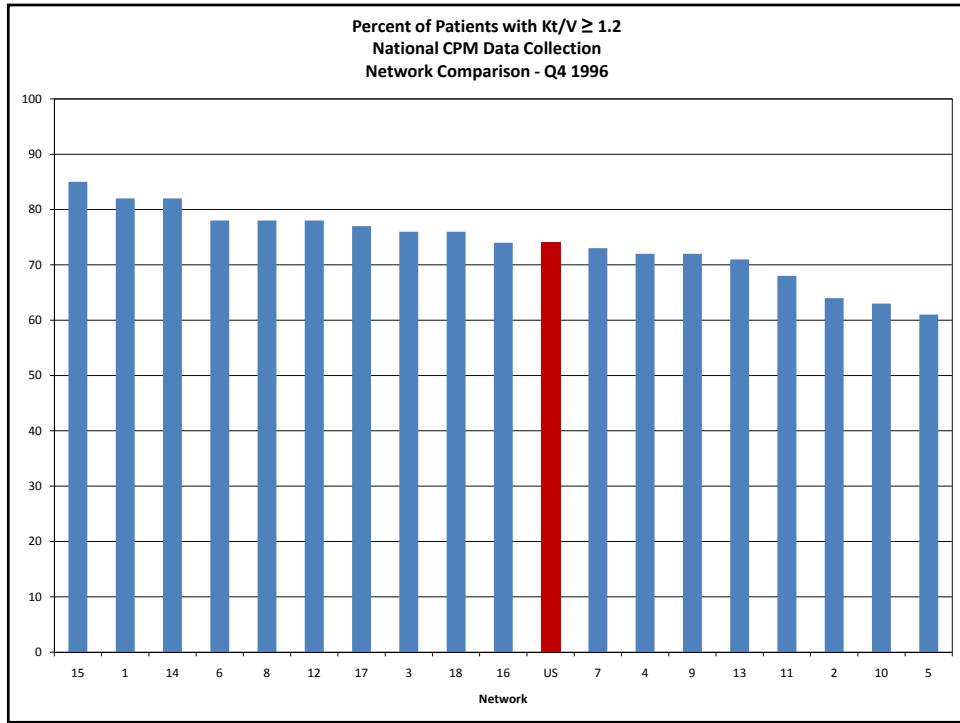
Do Networks Make a Difference?

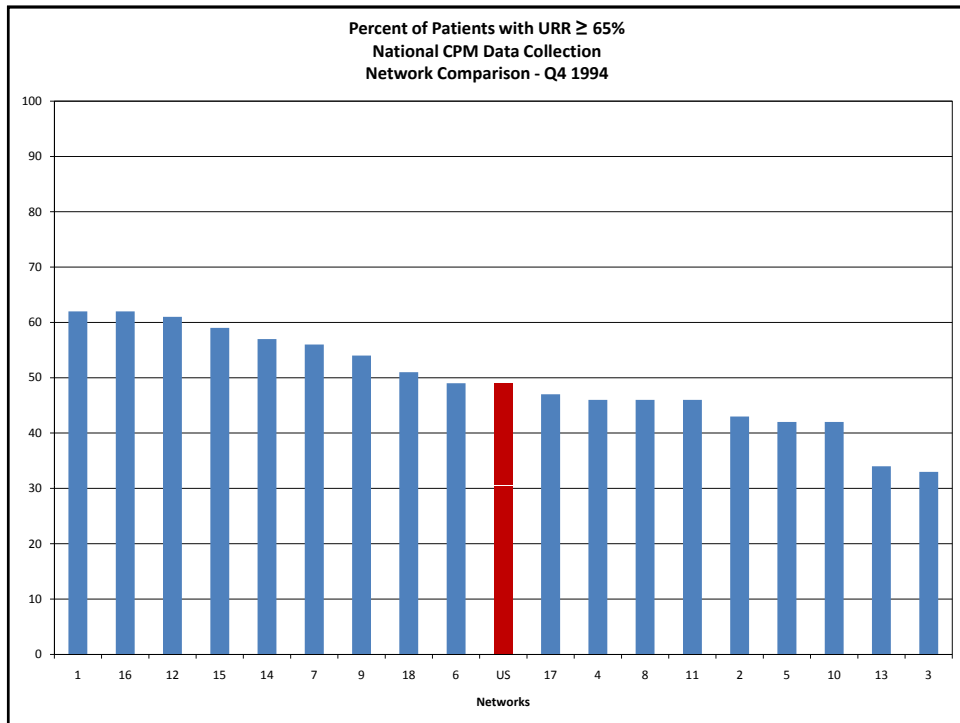
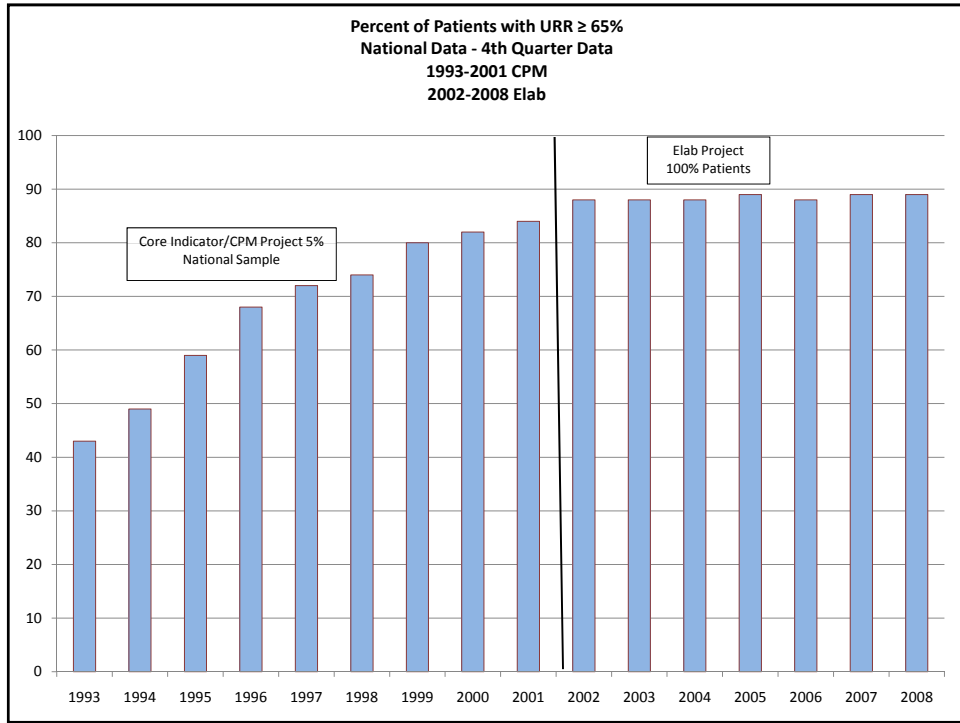
Network Accomplishments Three Examples

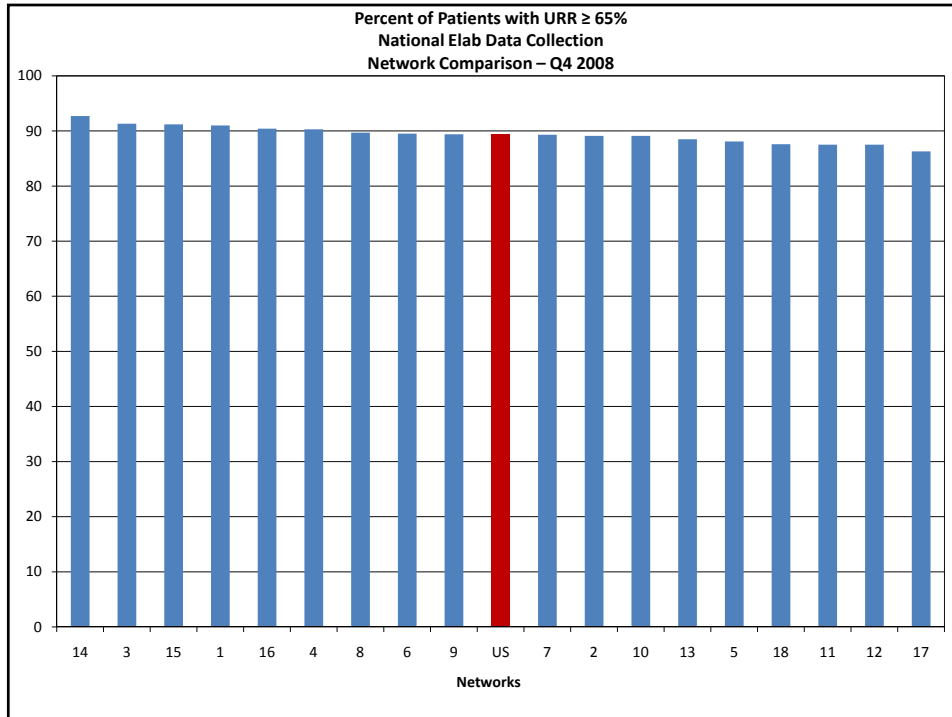
- Dialysis adequacy
- Vascular Access
- Anemia management

Hemodialysis Adequacy









Number of People with Improved Dialysis Adequacy Impact Analysis: Using Elab Trend Data

Number of patients whose mean Kt/V moved from < 1.2 in 2005 to ≥ 1.2 in 2006: 4,829

Number of patients whose mean Kt/V moved from < 1.2 in 2006 to ≥ 1.2 in 2007: 4,976

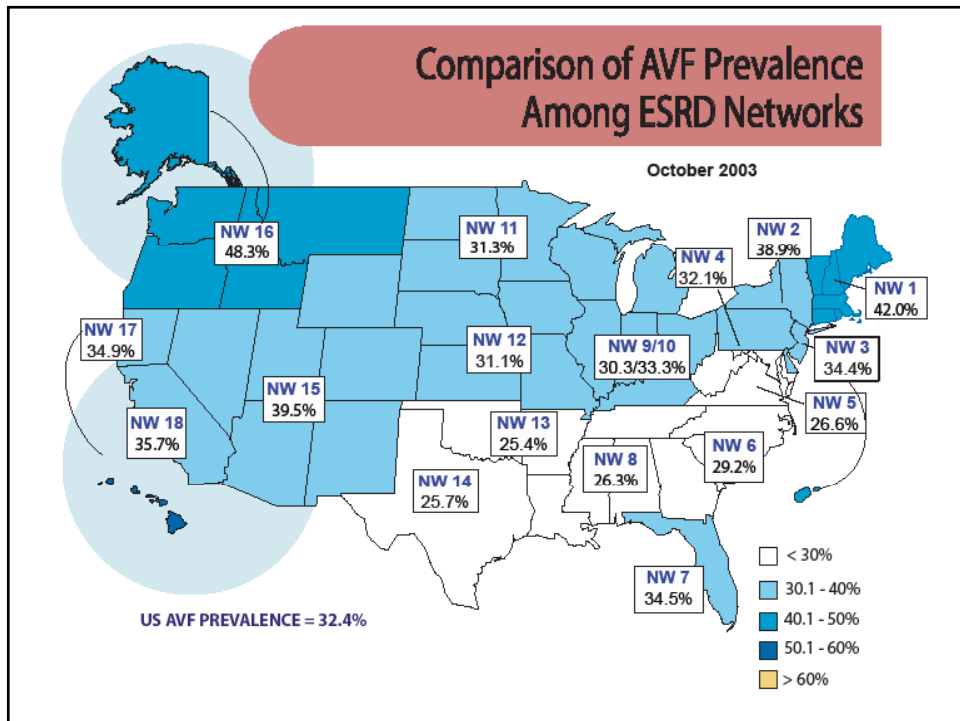
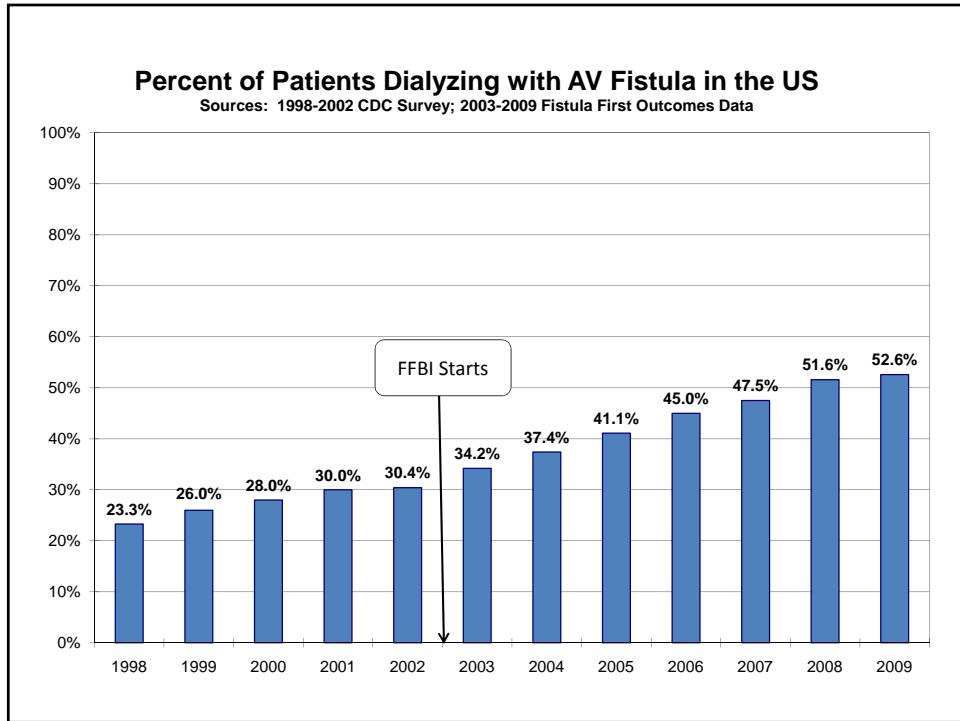
Number of patients whose mean Kt/V moved from < 1.2 in 2007 to ≥ 1.2 in 2008: 4,741

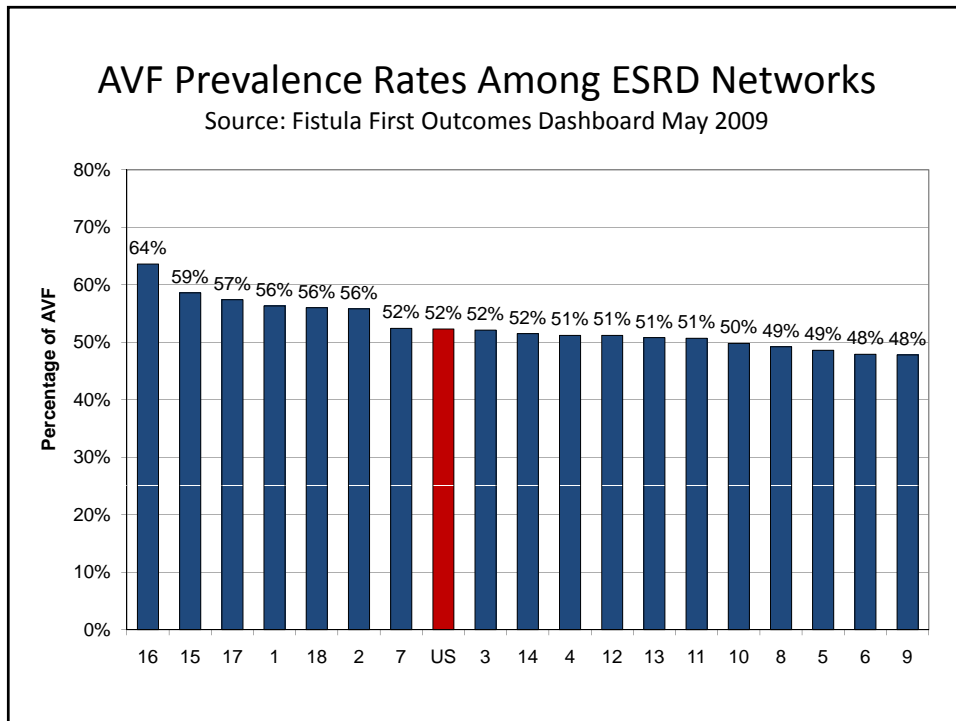
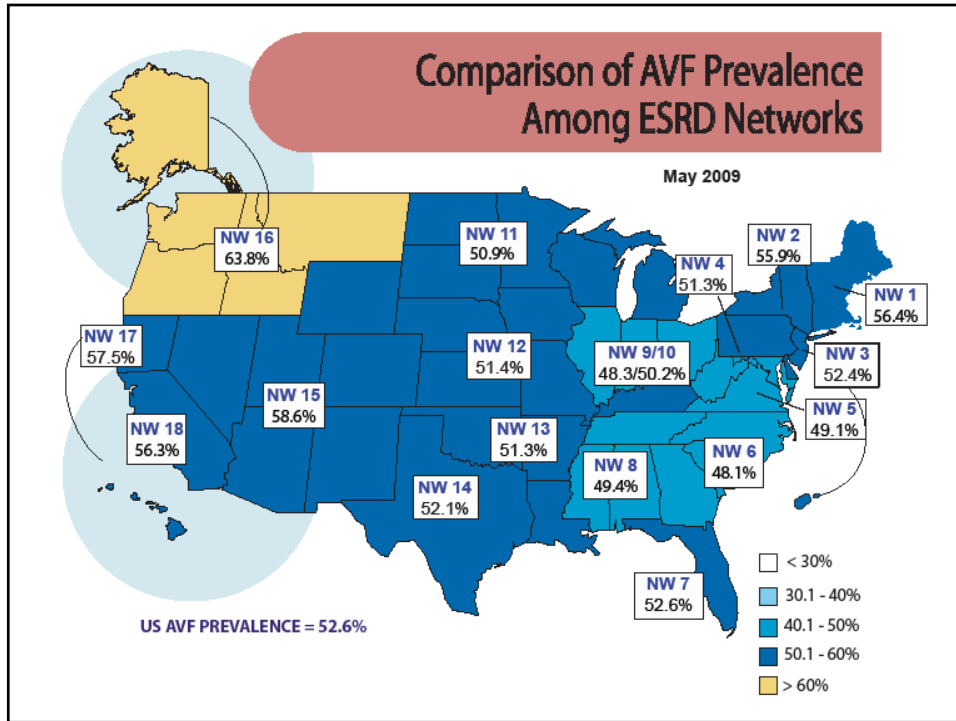
Business Case

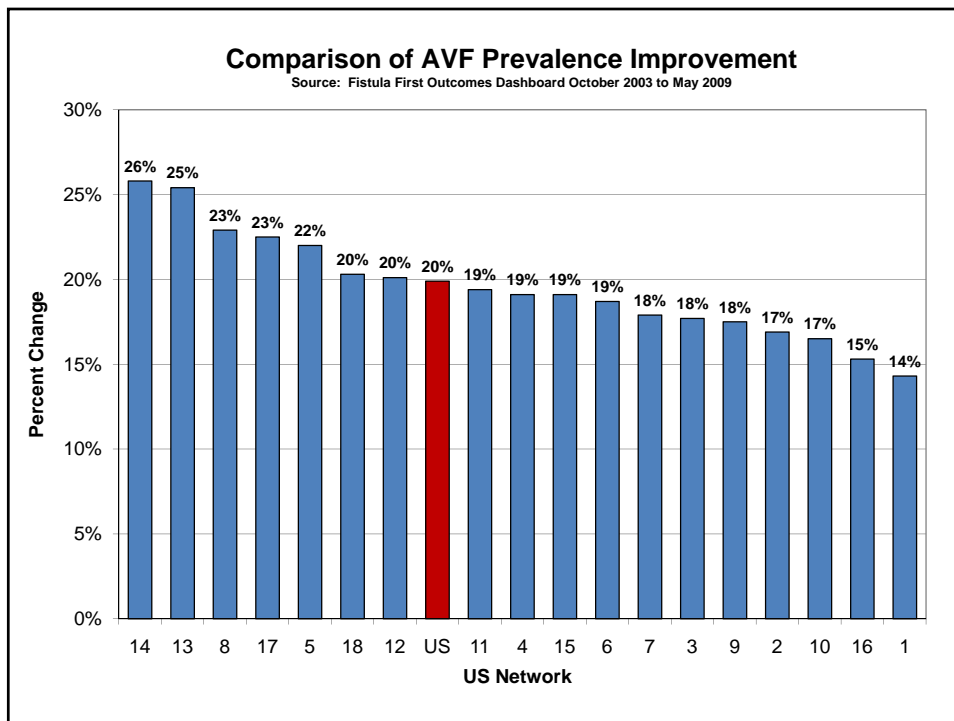
- Adequate dialysis is associated with fewer hospitalizations and days spent in the hospital
- A 0.1 increase in Kt/V is associated with a decrease of \$940 in Medicare inpatient expenditures
 - The 4741 patients who moved from < 1.2 in 2007 to ≥ 1.2 in 2008 would represent a total savings of **\$22,386,664** for this one year alone.

Sehgal AR, Dor A, Tsai AC: Morbidity and cost implications of inadequate dialysis. Am J Kidney Dis 37:1223-1231, 2001.

Vascular Access







Number of People with Improved Vascular Access Impact Analysis: Using FF Database

	Number of HD patients dialyzing with an AVF	Percent of HD patients dialyzing with an AVF
October 2003	65,749	33.2
October 2004	99,950	36.7
October 2005	113,975	40.7
October 2006	135,212	44.3
October 2007	154,903	48.3
October 2008	171,253	51.2
June 2009	181,832	52.9

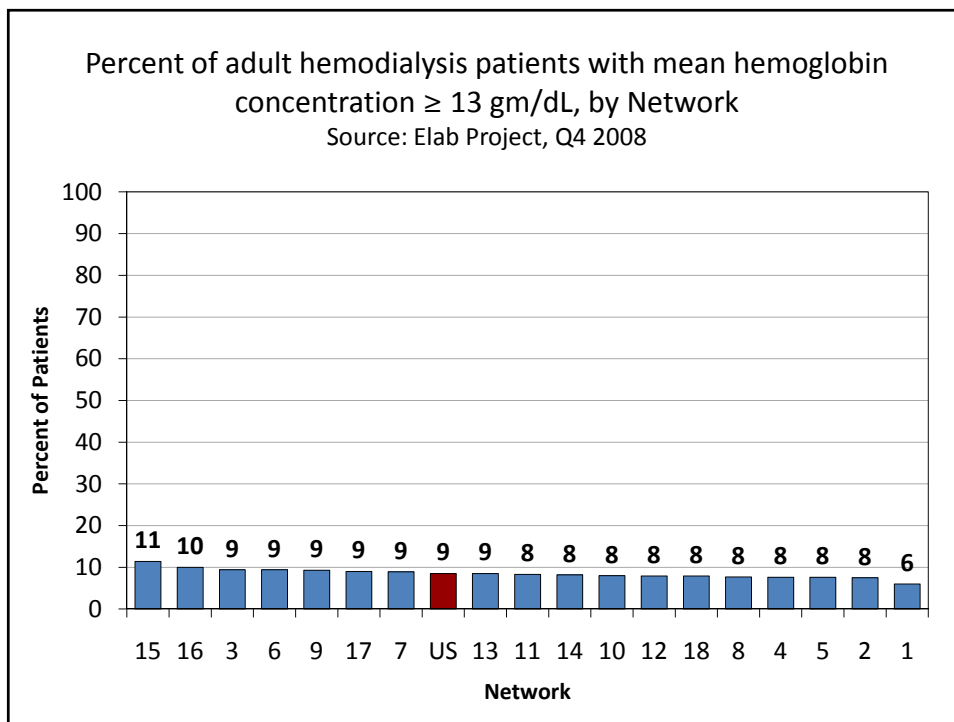
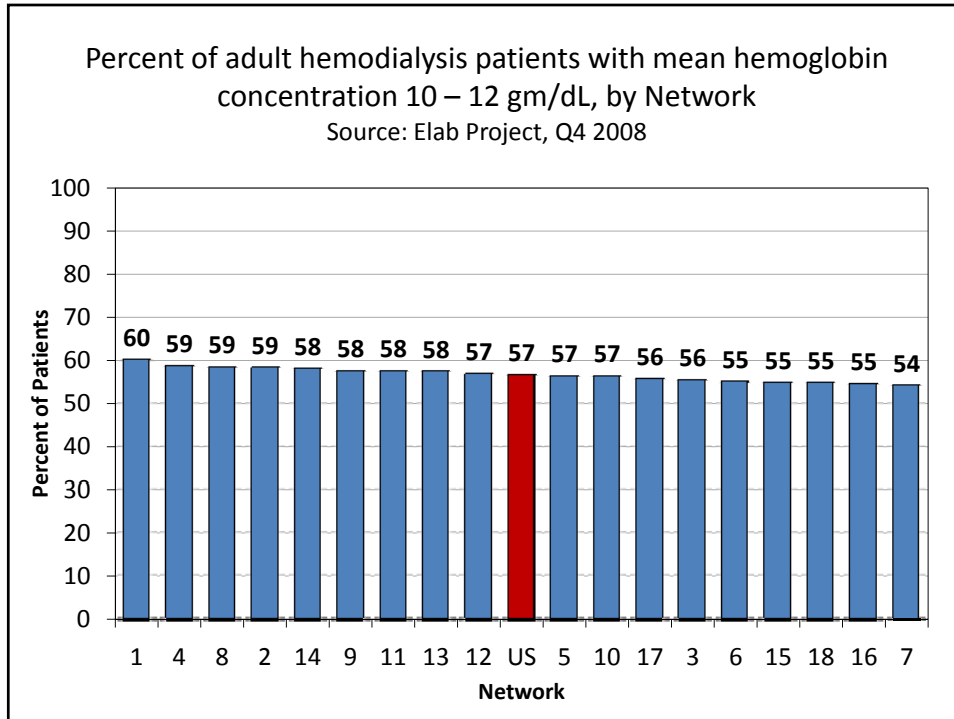
Source: Fistula First Outcomes Dashboard

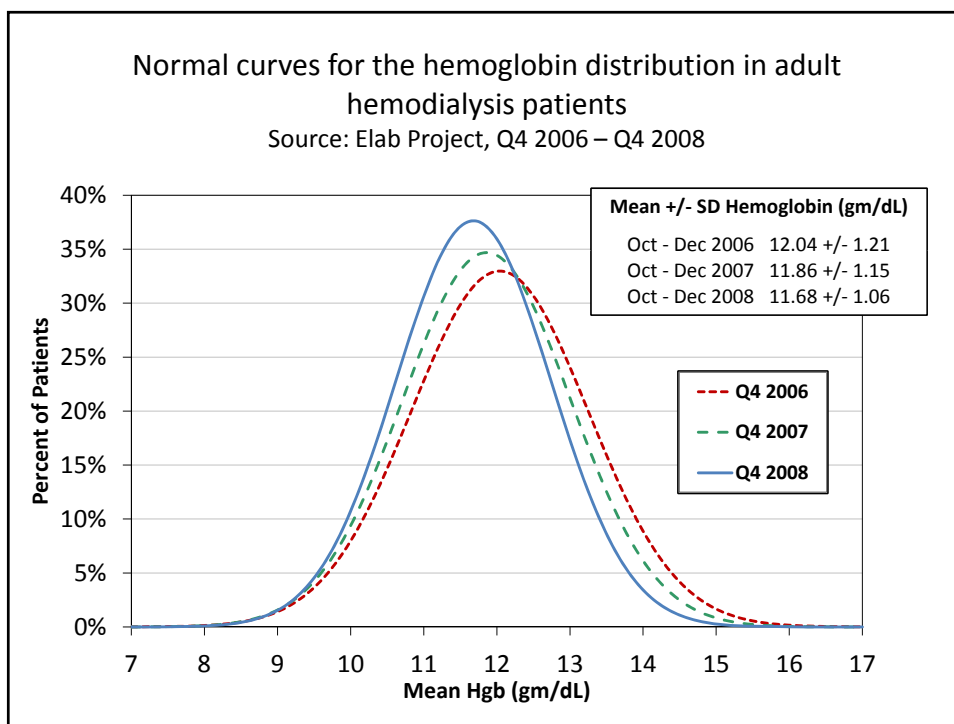
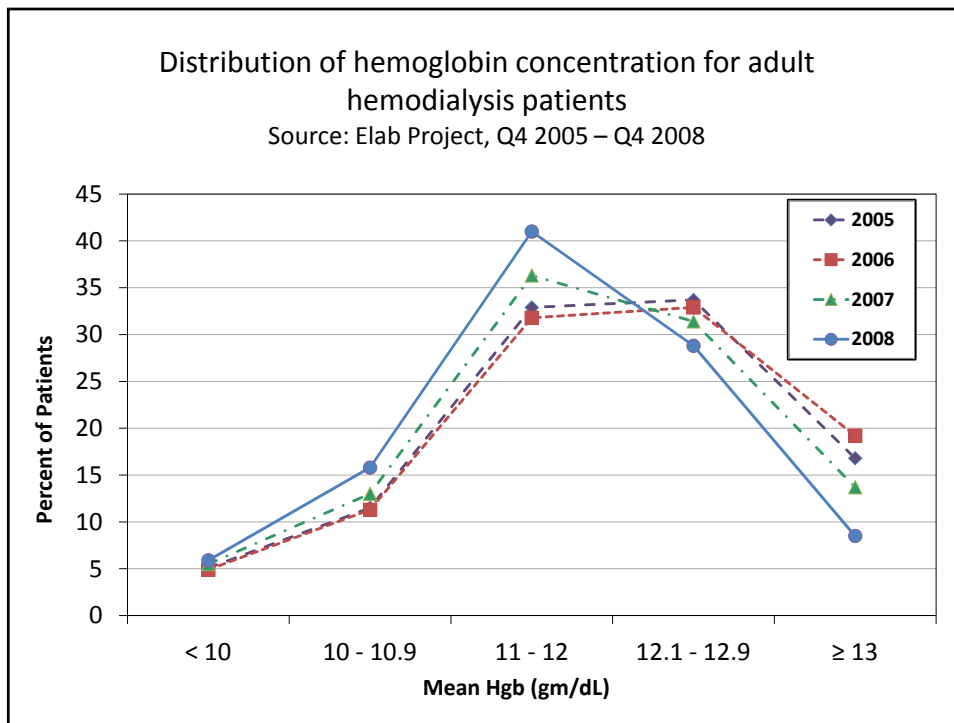
Business Case

- In 2006, the per person per year (PPPY) expenditure was \$59,347 for an AVF patient, \$71,616 for a graft patient, and \$77,093 for a catheter patient.
- On average, there is a savings of \$15K PPPY for AVF when compared to AVG or catheter
- 83,780 more patients received an AVF during the 5-year period from 2004-2009 with potential of
 - 5-year savings of \$1.2 B or
 - An annual savings of \$251 M

U.S. Renal Data System, USRDS 2008 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, 2008.

Anemia Management





Number of People with Improved Anemia Management Impact Analysis: Using Elab Data

Target range: Mean hemoglobin concentration 10 – 12 gm/dL

Number of patients who moved from being out of the target range in 2005 to being in range in 2006:	22,961
Number of patients who moved from being out of the target range in 2006 to being in range in 2007:	30,433
Number of patients who moved from being out of the target range in 2007 to being in range in 2008:	34,673

Number of People with Improved Anemia Management Impact Analysis: Using Elab

Moving Mean hemoglobin concentration from ≥ 13 to < 13 gm/dL

Number of patients with a mean hgb ≥ 13 gm/dL in 2005 who moved to < 13 in 2006:	12,265
Number of patients with a mean hgb ≥ 13 gm/dL in 2006 who moved to < 13 in 2007:	17,041
Number of patients with a mean hgb ≥ 13 gm/dL in 2007 who moved to < 13 in 2008:	14,538

Number of People with Sustained Anemia Management Improvement Impact Analysis: Using Elab Data

Following the cohort of hgb \geq 13 gm/dL for 4 years

Nearly 73,000 patients had hemoglobin data each year from Q4 2005 to Q4 2008

12,663 (17%) patients had a mean hgb \geq 13 gm/dL in 2005

Year	Overall Improvement	Sustained Improvement
2006	8829 (70%) improved	8829 (70%) improved
2007	7159 (81%) continued to improve	7159 (57%) sustained improvement for 2 years
2008	6290 (88%) continued to improve	6290 (50%) sustained improvement all 3 years

Business Case for improving anemia management

- Decreased mortality¹
- Decreased morbidity¹
- Decreased disparities²
- Increased cost effectiveness³

¹ Singh AK, Szczech L, Tang KL, et al. Correction of anemia with epoetin alfa in chronic kidney disease. *N Engl J Med* 2006; 355:2085-2098.

² Lea JP, Norris K, Agodoa L. The role of anemia management in improving outcomes for African-Americans with Chronic Kidney Disease. *Am J Nephrol* 2008; 28:732-743.

³ Singh AK, Szczech L, Tang KL, et al. Anaemia of CKD-the CHOIR study revisited. *Nephrol Dial Transplant* 2007; 22:1806-1810.

Factors Influencing Network QI Initiatives

- KDOQI Guidelines
- FDA Black box warning, CREATE, CHOIR
- CMS reimbursement changes
- Public Reporting: Dialysis Facility Compare
- National CPM Project
- National Elab Project
- Professional focus (ASN, ANNA)
- Fistula First Breakthrough Initiative

Future Opportunities Topics

- Reduction in health disparities
- Prevention (CKD, vaccination, diabetic complications, rehospitalizations*)
- Palliative care , end of life care, and hospice services
- Care transitions
- Reduced medication errors
- New performance measures

**Jencks SF, Williams MV, Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. N Engl J Med 2009;360:1418-28.*

Future Opportunities

Methods

- Evolving QI science
- Sharing innovative interventions
- Exploring new QI study designs
- Designing evaluation strategies in advance
- Increasing publications
- Documenting impact

Summary

- Network responsibilities include patient level complaints, facility level technical assistance, Network-wide quality improvement, and national focus
- Impact has been demonstrated on clinically important issues such as dialysis adequacy, vascular access, and anemia management
- Evolving QI and evaluation science offers exciting new opportunities to make a difference by partnering with CMS and providers to improve quality of care for patients with kidney disease