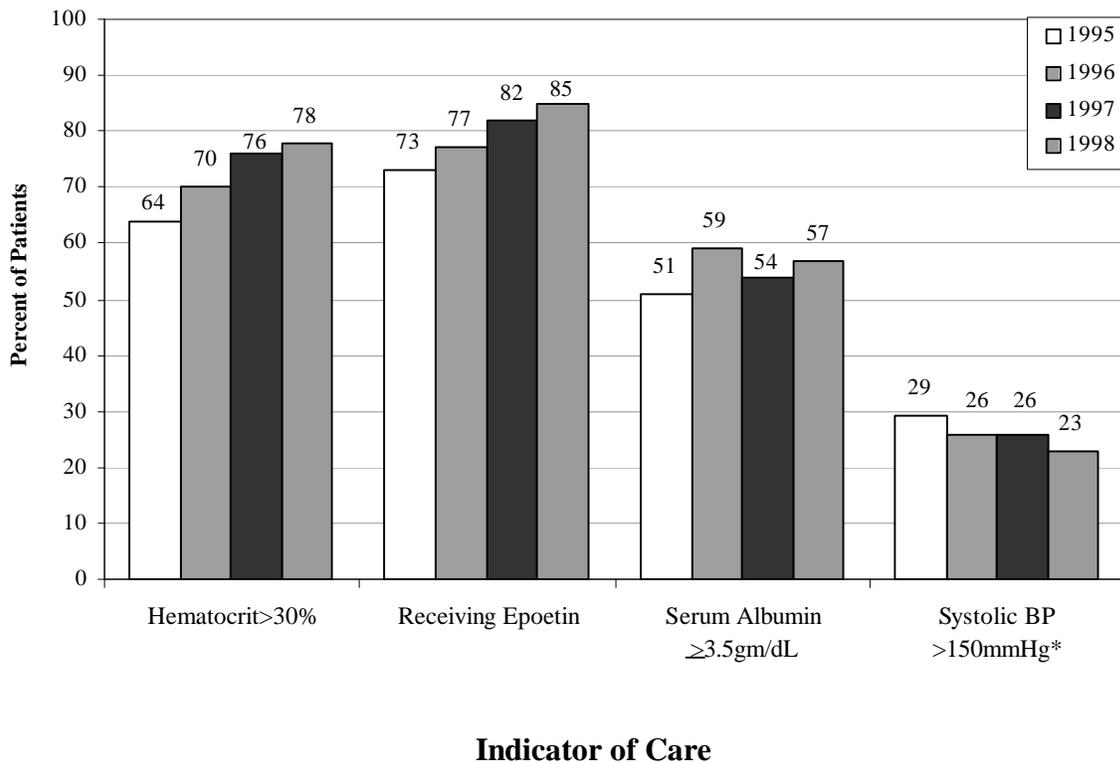


# HIGHLIGHTS

## from the 1998 ESRD Core Indicators Project for Peritoneal Dialysis Patients

Percent of adult (aged  $\geq 18$  yrs) peritoneal dialysis patients with selected indicators of care 1995-1998 study periods



A national assessment of clinical indicators for patients with End-Stage Renal Disease.

October 1998



## ESRD CORE INDICATORS PROJECT

The **ESRD Core Indicators Project** is a collaborative project between the Health Care Financing Administration (HCFA), the End-Stage Renal Disease (ESRD) Networks (page 6), and ESRD dialysis facilities. This project provides an annual snapshot of clinical measures, or core indicators, that may have an association with quality of care of chronic dialysis patients.

A work group of representatives from the renal community and HCFA (page 7) identified the four key indicators that were used in this project: Anemia Management, Serum Albumin Level, Blood Pressure Control, and Adequacy of Dialysis.

This highlight report provides a comparison of these core indicator results for a random sample of adult (\$18 years) peritoneal dialysis patients from November 1994-April 1995 (referred to hereinafter as 1995), November 1995-April 1996 (referred to hereinafter as 1996), November 1996-April 1997 (referred to hereinafter as 1997), and November 1997-April 1998 (referred to hereinafter as 1998), and compares findings from 1998 to the National Kidney Foundation Dialysis Outcomes Quality Initiative Guidelines (NKF-DOQI) for the Treatment of Anemia of Chronic Renal Failure and for Peritoneal Dialysis Adequacy.

Data for this project, which focus on a random sample of over 1,300 adult (\$18 years), peritoneal dialysis patients in each study period, were abstracted by staff at more than 710 peritoneal dialysis facilities in the United States.

Core Indicators	
<b>Anemia Management</b>	<b>Serum Albumin</b>
<b>Blood Pressure Control</b>	<b>Adequacy of Dialysis</b> -as measured by weekly Kt/V urea or creatinine clearance

The peritoneal dialysis study was designed to be analyzed in aggregate to yield national estimates only. The study design does not allow for statistically stable estimates for each Network area. In addition to presenting highlights of findings, this document emphasizes that important opportunities to improve care exist for these patients.

**Table 1: Characteristics of adult (aged \$18 years) peritoneal patients, 1998 ESRD Core Indicators Project**

Characteristic	Peritoneal Dialysis			
	1995	1996	1997	1998
TOTAL IN SAMPLE	1202 (100)	1208 (100)	1219 (100)	1381 (100)
GENDER				
Males	640 (53)	654 (54)	626 (51)	698 (51)
Females	562 (47)	551 (46)	593 (49)	679 (49)
RACE/ETHNICITY*				
Caucasian	814 (68)	775 (64)	795 (66)	838 (61)
African-American	304 (25)	318 (26)	297 (25)	389 (28)
Asian/Pacific Islander	40 (3)	48 (4)	17 (1)	55 (4)
American Indian/Alaska Native	18 (2)	16 (1)	2 (0.2)	15 (1)
Hispanic			115 (9)	136 (10)
Other/Unknown	26 (2)	49 (4)	94 (8)	76 (6)
AGE GROUP				
18-44	352 (29)	336 (28)	332 (27)	384 (28)
45-64	481 (40)	500 (41)	551 (45)	589 (43)
65+	369 (31)	372 (31)	336 (28)	403 (29)
DIAGNOSIS				
Diabetes mellitus	385 (32)	414 (34)	421 (34)	496 (36)
Hypertension	309 (26)	266(22)	270 (22)	286 (21)
Glomerulonephritis	271 (23)	217 (18)	216 (18)	232 (17)
Other/Unknown	237 (20)	308 (26)	312 (26)	351 (26)

\*Ethnicity information was not specifically obtained in the 1995 and 1996 study years.

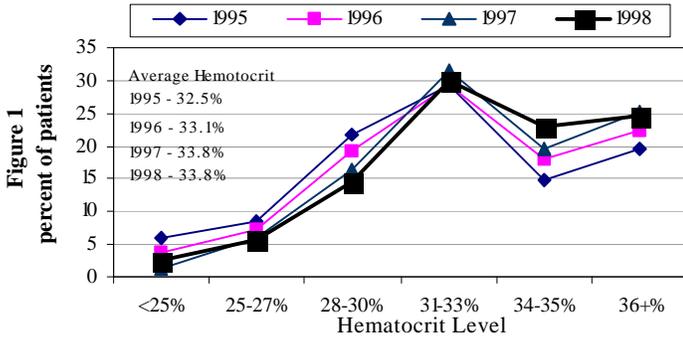
# 1998 ESRD CORE INDICATORS RESULTS FOR PERITONEAL DIALYSIS PATIENTS

## MANAGEMENT OF ANEMIA

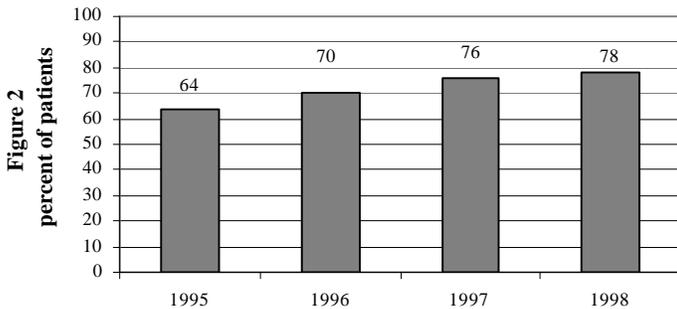
### Findings:

- 1 The mean hematocrit for peritoneal dialysis (PD) patients in 1998 was 33.8%; no change from 1997 (Figure 1).
- 1 There was a two percentage point increase in the percentage of peritoneal dialysis patients with mean hematocrit values >30% from 1997 to 1998 (Figure 2).

**Improvement in hematocrit level for adult peritoneal dialysis patients, 1995-1998**  
1998 ESRD Core Indicators Project

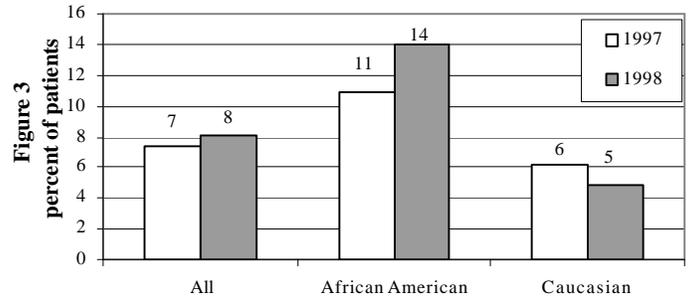


**Percent of adult peritoneal dialysis patients with mean hematocrit >30%**  
1998 ESRD Core Indicators Project



- 1 A greater percentage of African-American patients than Caucasian patients had mean hematocrit values <28% (severe anemia) (Figure 3).

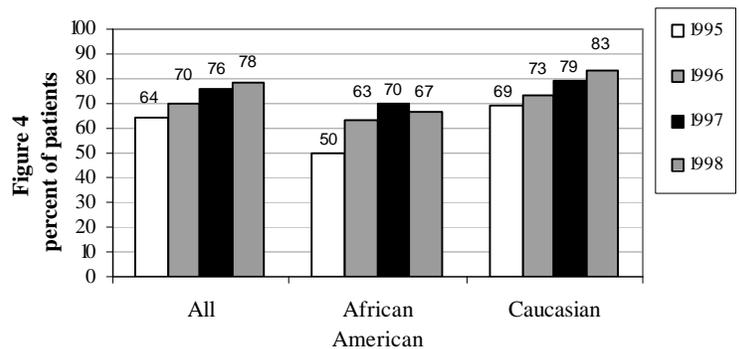
**Percent of adult peritoneal dialysis patients with mean hematocrit <28% by race**  
1998 ESRD Core Indicators Project



### Opportunities to Improve:

- 1 22% of peritoneal dialysis patients had mean hematocrit values <31% (Figure 2) in the 1998 study period.
- 1 33% of African-American and 17% of Caucasian peritoneal dialysis patients had mean hematocrit values <31% (Figure 4) in the 1998 study period.
- 1 44% of patients receiving Epoetin (48% of Caucasian, and 35% of African American) had mean hematocrit values within the DOQI target range of 33%-36%.
- 1 60% of patients (66% of Caucasian, and 47% of African American) had mean hematocrit of  $\geq 33\%$ .
- 1 65% of patients had mean transferrin saturation  $\geq 20\%$ .
- 1 72% of patients had mean ferritin concentration  $\geq 100\text{ng/mL}$ .

**Percent of adult peritoneal dialysis patients with hematocrit values >30%**  
1998 ESRD Core Indicators Project

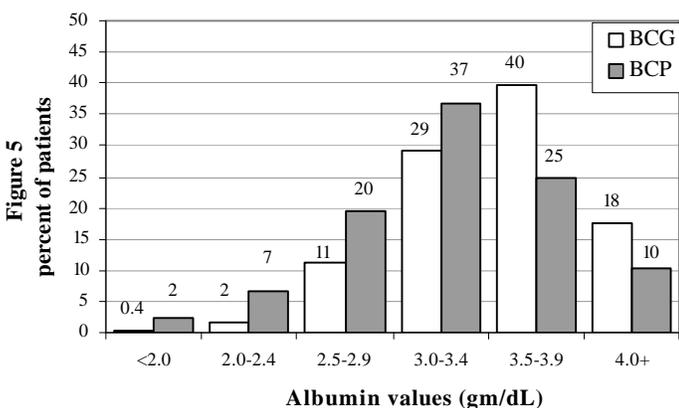


## SERUM ALBUMIN

### Findings:

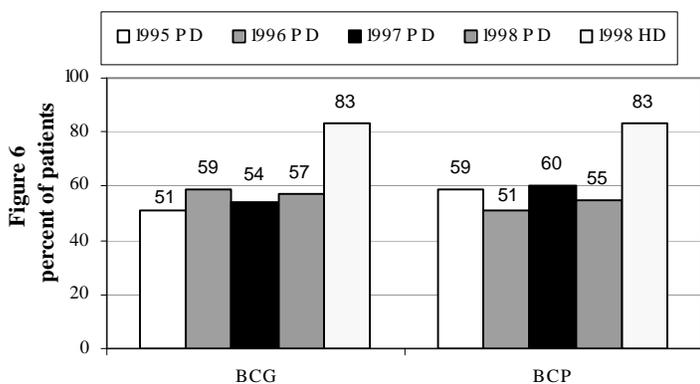
- 1 Serum albumin values differ systematically with the laboratory method used; the bromcresol green (BCG) method yields higher values than the bromcresol purple (BCP) method (Figure 5).

**Distribution of mean serum albumin values for adult peritoneal dialysis patients, by laboratory method  
1998 ESRD Core Indicators Project**



- 1 The mean serum albumin values for peritoneal dialysis patients (3.5 gm/dL by BCG and 3.3 gm/dL by BCP method) were lower than for hemodialysis patients (3.8 gm/dL by BCG and 3.6 gm/dL by BCP method) for 1998.
- 1 The percent of patients with mean serum albumin values  $\geq 3.5$  gm/dL by BCG or  $\geq 3.2$  gm/dL by BCP method was lower for peritoneal dialysis than for hemodialysis patients (Figure 6).

**Percent of adult dialysis patients with mean serum albumin values  $\geq 3.5$  gm/dL (BCG) or  $\geq 3.2$  gm/dL BCP)  
1998 ESRD Core Indicators Project**



### Opportunity for Improvement:

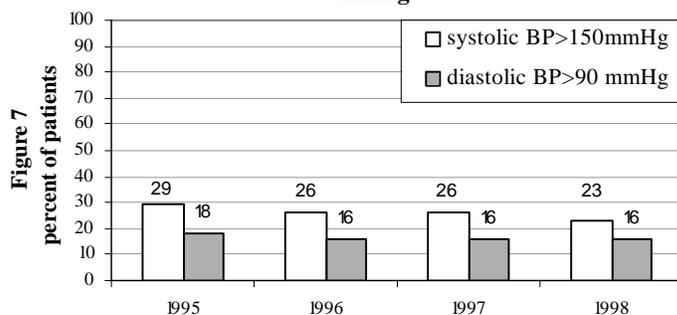
- 1 43% of adult peritoneal dialysis patients had mean serum albumin values  $< 3.5$  gm/dL (BCG) or  $< 3.2$  gm/dL (BCP) in the 1998 study period.

## BLOOD PRESSURE CONTROL

### Findings:

- 1 The mean systolic and diastolic blood pressure values for peritoneal dialysis patients in 1998 (136 mmHg and 79 mmHg), were essentially unchanged from 1997.
- 1 The percent of peritoneal dialysis patients with systolic or diastolic blood pressure values  $> 150$  mmHg or  $> 90$  mmHg, respectively, is depicted in Figure 7.

**Percent of adult peritoneal dialysis patients with mean blood pressure values  $> 150$  (systolic) or  $> 90$  (diastolic) mmHg**



### Opportunity for Improvement:

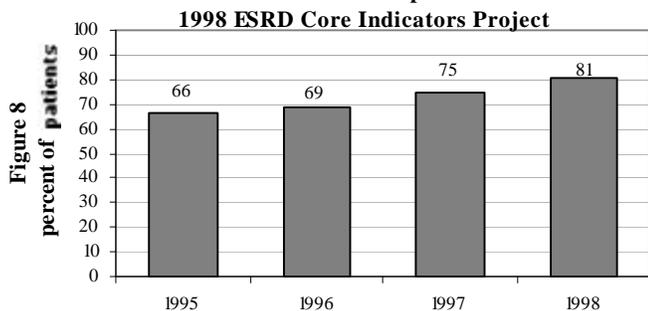
- 1 Approximately one in four adult peritoneal dialysis patients had systolic blood pressure  $> 150$  mmHg or diastolic blood pressure  $> 90$  mmHg, i.e., uncontrolled hypertension.

## ADEQUACY OF DIALYSIS

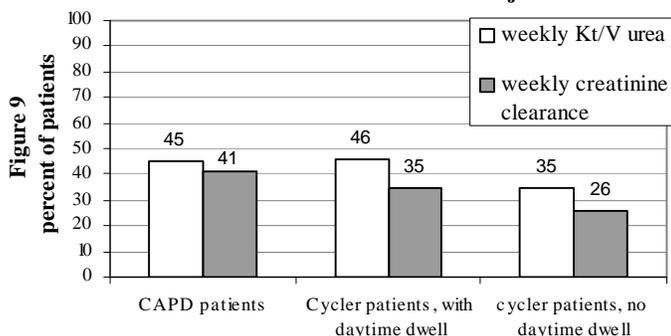
### Findings:

- 1 Using values that were abstracted from medical records of peritoneal dialysis patients, it was possible to calculate at least one of the adequacy measures (see note below) for 1010 (73%) of the 1,381 patients during the 1998 study period.
- 1 371 (27%) of the medical records abstracted did not yield all the values needed to calculate an adequacy measure; however, 105 (28%) of these medical records had at least either one Kt/V value (101) or one weekly creatinine clearance value (88) recorded during the 1998 study period.
- 1 We estimate that during the 1998 study period the adequacy of dialysis was assessed at least once for approximately 81% of adult peritoneal dialysis patients described in this study. This represents an improvement from data presented in the 1997 Peritoneal Dialysis Highlight Report (75%) (Figure 8).

**Estimated percent of adult peritoneal dialysis patients with at least one adequacy assessment during November 1997-April 1998**



**Percent of adult peritoneal dialysis patients meeting DOQI guidelines for adequacy measures**



### Opportunity to Improve :

- 1 The adequacy of dialysis was not assessed during the 1998 study period for an estimated 19% of adult peritoneal dialysis patients.

#### NOTE:

**Two commonly used measures of adequacy for peritoneal dialysis are:**

**Cweekly Kt/V urea and**

**Cweekly creatinine clearance.**

**In order to calculate the former, one needs values for 24-hour dialysate outflow volume and urea nitrogen, 24 hour urine volume and urea nitrogen, and serum urea nitrogen, as well as the patient's height and weight. In order to calculate the latter, one needs all the preceding values (except urea values), plus the values for 24-hour dialysate outflow creatinine, 24-hour urine creatinine, and serum creatinine.**

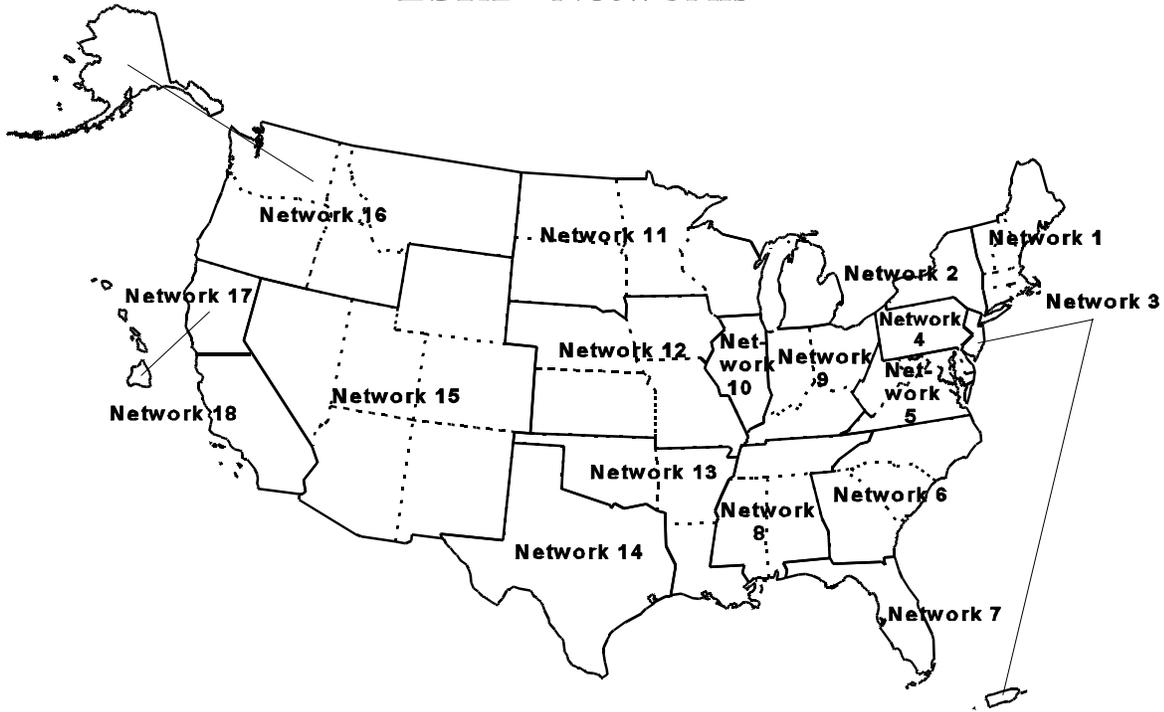
## NEXT STEPS

Important opportunities to improve care for adult peritoneal dialysis patients in the U.S. exist. The purpose of the ESRD Core Indicators Project is to provide comparison data that will stimulate improvement in care and to recognize that improvement. The ultimate goal for this project is to improve care for all renal dialysis patients.

Staff and Medical Review Board members of ESRD Networks are available to assist individual dialysis facilities in the identification of opportunities for improvement and in the development of intervention activities.

In 1999, ESRD Networks, in collaboration with ESRD facilities, will once again assess the clinical outcome measures of the ESRD population using these Core Indicators. If you have any questions about the information presented in this report please contact the ESRD Network office in your area (see page 6).

## ESRD Networks



Network #	Telephone #	Network #	Telephone #
1	(203) 387-9332	10	(317) 257-8265
2	(212) 289-4524	11	(651) 644-9877
3	(609) 395-5544	12	(816) 880-9990
4	(412) 647-3428	13	(405) 843-8688
5	(804) 794-3757	14	(972) 503-3215
6	(919) 876-7545	15	(303) 831-8818
7	(813) 251-8686	16	(206) 923-0714
8	(601) 936-9260	17	(415) 472-8590
9	(317) 257-8265	18	(323) 962-2020

Look for this report on the Internet HCFA's Web Site: [www.hcfa.gov/quality/qlty-3c.htm](http://www.hcfa.gov/quality/qlty-3c.htm)

## Acknowledgments

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- Staff at more than 710 dialysis facilities in the U.S. who abstracted the requested information from medical records; and
- The many other individuals in the renal community and HCFA who contributed to this work.

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