

## **2001 ANNUAL STATISTICAL REPORT**

**FOR**

### **END-STAGE RENAL DISEASE NETWORK 9/10**

**THE RENAL NETWORK, INC.**

**Submitted By:  
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**Sponsored By:  
Centers for Medicare & Medicaid Services  
Contract Numbers: 500-00-NW09 &  
500-00-NW10**

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2001 ANNUAL REPORT  
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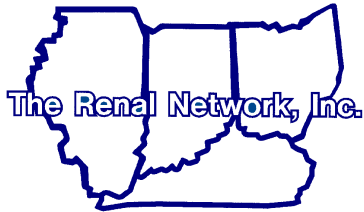
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June 28, 2002

The **2001 Annual Statistical Report for End-Stage Renal Disease (ESRD) Network 9/10**, which outlines the year's activities, represents a successful coordinated effort among health care providers, patients, and Network staff.

The Renal Network, Inc. (ESRD Networks 9/10) is an independent agency that monitors the treatment of patients with ESRD in Illinois, Indiana, Kentucky, and Ohio. There are a total of 18 ESRD Networks throughout the country that provide oversight of dialysis and transplant centers. The goal of the ESRD Networks is to assure appropriateness of dialytic care while fostering patient independence and well-being. ESRD Networks are funded through the Centers for Medicare and Medicaid Services (CMS).

The Renal Network is particularly proud of patient participation at all levels of its operation from the Board of Trustees, the Medical Review Board, the Patient Leadership Committee and Network Coordinating Council to each individual dialysis unit.

Network Coordinating Council and committee members are volunteers who have given of their time to assure the quality of care provided to patients receiving treatment for ESRD. These same individuals have participated in the development of various goals and outcome surveys for the Network. The Network appreciates the contributions of all of our volunteers. Their contributions of time, dedication and expertise have enabled our Network to go well beyond the requirements of our CMS contract to drive a progressive pro-active Network.

I am grateful to all the dedicated professionals, including those in each of our dialysis and transplant facilities and the Network administrative office, without whose dedication and perseverance the Network accomplishments would not have been possible. I am proud of my association with The Renal Network, Inc., and I expect that the contributions of our stakeholders will continue to make our Network a model for others to emulate.

Sincerely,

Jay B. Wish, M.D.  
President

**THE RENAL NETWORK, INC.  
2001 ANNUAL REPORT**

**I. INTRODUCTION**

**A. Network Description**

The Renal Network encompasses the states of Illinois, Indiana, Kentucky, and Ohio. The total population in the four-state area is 43,894,687 ("2001 Population Estimates - U.S. Census Bureau Quick Facts, Illinois, Indiana, Kentucky and Ohio," U.S. Department of Commerce, Bureau of the Census). ESRD incidence and prevalence rates continued to increase during 2000 as shown in the following tables.

Despite a small decrease in incidence in Network 10 and a small increase in Network 9 during 2001, the overall prevalence of ESRD patients in both Network areas continues to grow. A one-year comparison of incidence and prevalence of all ESRD patients is shown below.

<b>Incidence</b>	<b>2001</b>	<b>2000</b>	<b>Percentage Change</b>
Network 9	7153	7075	+1%
Network 10	4274	4316	-1%
<b>Prevalence</b>	<b>2001</b>	<b>2000</b>	<b>Percentage Change</b>
Network 9	20,036	19,195	+4%
Network 10	12,426	11,909	+4%

The following data for race and ethnicity are taken from "2001 Population Estimates - U.S. Census Bureau Quick Facts, Illinois, Indiana, Kentucky and Ohio," U.S. Department of Commerce, Bureau of the Census."

Illinois, "The Prairie State," ranks 5<sup>th</sup> among all states in population. Figures from the U.S. Department of Commerce, Bureau of the Census, show the population divided by race as:

White	73.5%	Black	15.1%
Other	11.4%		

About 12.3% of the population is defined as Hispanic in ethnicity. Divided by age groups, approximately 26.1% of the population was under the age of 18; 61% were between the ages of 18 and 64; and 12.1% were aged 65 or greater. Currently, the female population is approximately 51% and the male population is 49%.

One-half of the population of the state lives in the metropolitan Chicago area. In total, 83 percent of the population live in urban areas and 17 percent of the population live in rural areas. Other urban areas in Illinois (with a population of greater than 100,000) are Springfield (the state capital), Rockford, and Peoria.

Indiana, "The Hoosier State," ranks 14<sup>th</sup> among all states in population. Figures from the U.S. Department of Commerce, Bureau of the Census show the population divided by race as:

White	87.5%	Black	8.4%
Other	4.1%		

About 3.5% of the population is defined as Hispanic in ethnicity. Divided by age groups, approximately 25.9% of the population was at age 18 or under; 61.7% were between the ages of 18 and 65; and 12.4% were over the age of 65. Currently, the female population is approximately 51% and the male population is 49%.

About two-thirds of Indiana's population live in urban areas. Indianapolis, the state capital, is the largest city in the Network area, as well as Indiana, with a population of over 1,000,000. Other urban areas in Indiana (with population greater than 100,000) are Fort Wayne, Gary, Evansville and South Bend.

Kentucky, "The Bluegrass State," ranks 25<sup>th</sup> among all states in population. Figures from the U.S. Department of Commerce, Bureau of the Census show the population divided by race as:

White	90.1%	Black	7.3%
Other	2.6%		

About 1.5% of the population is defined as Hispanic in ethnicity. Divided by age groups, approximately 24.6% of the population was at age 18 or under; 62.9% were between the ages of 18 and 65; and 12.5% were over the age of 65. The female population is approximately 52% and the male population is 48%.

The Kentucky population is about evenly divided between rural and urban dwellers. Urban centers (with population greater than 100,000) are Louisville, Lexington, Owensboro, Covington, Bowling Green, Paducah, Hopkinsville, and Ashland. Kentucky's state capital is Frankfort.

Ohio, "The Buckeye State," ranks 7<sup>th</sup> among all states in population. Figures from the U.S. Department of Commerce, Bureau of the Census show the population divided by race as:

White	85%	Black	11.5%
Other	3.5%		

About 1.9% of the population is defined as Hispanic in ethnicity. Divided by age groups, approximately 25.4% of the population was at age 18 or under; 61.3% were between the ages of 18 and 65; and 13.3% were over the age of 65. Currently, the female population is approximately 52.1% of total population and the male population is 47.9%.

About three-quarters of the population of Ohio live in urban areas. Urban centers (with population greater than 100,000) include Cleveland, Columbus (the state capital), Cincinnati, Toledo, Akron, Dayton, and Youngstown.

## **B. Network Structure**

### **1. Staffing**

The Renal Network employs 16 full-time employees:

Susan A. Stark, Executive Director: Project Director, responsible for the overall operation of all functions of The Renal Network, Inc.

Bridget M. Carson, Assistant Director: provides back-up in administrative responsibilities. This position is also responsible for overseeing all communications for The Renal Network, and staff responsibilities to the Medical Review Board, the Pediatric Renal Group, the Publications Committee and the Nominating Committee.

Jeannette A. Cain, B.S.R.N., M.S.M., C.P.H.Q., Quality Improvement Director: Oversees all quality improvement projects and intervention activities.

Raynel Kinney, R.N., C.N.N., Quality Improvement Coordinator: assists with quality improvement and intervention activities and also coordinates the clinical performance measures project.

Mary Ann Webb, M.S.N., R.N., Quality Improvement Coordinator: assists with quality improvement and intervention activities.

Janie Hamner, Quality Improvement Assistant: responsible for support to Quality Improvement Department.

Janet Nagle, Office Manager: responsible for operation of the Network office, including bookkeeping and personnel.

Kathi Niccum, Ed.D., Patient Services Director: responsible for direction of all patient activities.

Dolores Perez, M.S., Patient Services Associate: assists with implementation of all patient activities.

Leanne Emery, M.A., Patient Services Assistant, provides secretarial support to the Patient Services Department.

Richard Coffin, Data Services Director: responsible for all programming needs and also directs the staff of the Data Services Department.

Christina Harper, Data Manager: oversees the day-to-day operation of the Data Services Department.

Helen McFarland, Data Specialist: Responsible for tracking patients for Network 10 facilities.

Kathy Gumerson, Data Specialist: responsible for tracking patients for Network 9 facilities.

Marietta Gurnell, C.H.T., Data Specialist: Responsible for tracking patients in Network 9 facilities.

Rita Cameron, Secretary: responsible for secretarial support.

## 2. Committees

Network Coordinating Council: The Network Coordinating Council (NCC) is composed of representatives of dialysis providers from hospitals and other facilities located in the states of Illinois, Indiana, Kentucky, and Ohio which are certified by the Secretary of Health and Human Services to furnish at least one specific end-stage renal disease service. The NCC includes a representative of each of the current Medicare approved end-stage renal disease facilities. Each facility has a single representative, designated by its chief executive officer or medical director, who is approved by the governing board of the facility. The NCC is responsible for the election of members to the Board of Trustees and the Medical Review Board. Elections are held by mail-in ballot. The Council meets once annually. During 2001, the Council met on May 10.

During 2001, the following occurred:

- ◆ The 2001 slates for membership on the Board of Trustees and Medical Review Board were presented and approved. Nominations were accepted from January through May 10 (at 5 p.m. EST) for open positions. Members were elected to both committees by mail-in ballot in the fall. Terms of office were to begin on January 1, 2002 and end on December 31, 2004.
- ◆ 2000 data were presented and the 2000 Annual Report was distributed.
- ◆ The Network Coordinating Council was updated on activities with CMS and the Forum of Renal Networks, and contract issues.
- ◆ The 2001 Nephrology Conference was held at the Indianapolis Marriott Downtown on May 10 and 11. The Conference offered educational programs for administrators, physicians, nurses, social workers, dietitians, and technicians.
- ◆ Dialysis facilities within Networks 9/10 were informed of and participated in the CMS Clinical Performance Measures Project and the Adequacy of Dialysis Quality Improvement Project.

Board of Trustees: The Board of Trustees is the chief governing body of ESRD Network 9/10. The Board of Trustees holds the Network contracts for ESRD Network 9/10 with the CMS, and is responsible for meeting contract deliverables and oversight of the administration of the Network budget.

In 2001, the Board of Trustees was composed of 24 members, elected for three year terms of office including:

Eight Renal Physicians  
Four ESRD Patients  
Two Non-Categorical Position  
Chairperson of the Medical Review Board/ Network 9 area  
Chairperson of the Medical Review Board/Network 10 area  
One Nurse  
One Social Worker  
One Administrator  
One Dietitian  
One Technician  
One Legal Representative  
One Financial Representative (vacant)  
The Past President

The Board of Trustees met in person on January 12 and 13, March 21, August 29, and October 24, 2001.

Members of the Board of Trustees for 2001 were:

Jay B. Wish, M.D., President	Craig Stafford, M.D., Vice President
Chester Amedia, Jr., M.D., Treasurer	Pat Gunnerson, Secretary
George Aronoff, M.D., Ntwk 9 MRB Chair	Robert Mutterperl, D.O., Ntwk 10 MRB Chair
Emil P. Paganini, M.D., Past President	Kent Bryan, M.D.
William (Dirk) Combs	Evernard Davis
Brian Duffy, M.D.	Robert Felter
Billie Goble, M.S.W.	Thomas Golubski, M.D.
Richard J. Hamburger, M.D.	Susan Hou, M.D.
JoAnn Johnson, R.N.	Mark Parks, C.H.T.
Janeen Beck Leon, R.D.	Jane Robinson, R.N.
Catherine Simmons, R.N.	Joseph Scodro, Esq.
Cheryl Sweeney, R.N., C.N.N.	

During 2001, the Board of Trustees accomplished the following:

- ◆ Network financial records were reviewed and expenditure reports approved.
- ◆ The Board of Trustees heard updates from the Medical Review Board, the Patient Advisory Councils, the Nominating Committee, and the Program Committee. These updates included committee activities and action items.
- ◆ The Board of Trustees was updated on activities with CMS, The Forum of ESRD Networks, and contract issues.

- ◆ The Board of Trustees participated in a strategic planning session. Members discussed how to implement the core purpose, the core values, and the goals of the Network into current and future projects of The Renal Network, Inc.

Medical Review Board: The Medical Review Board (MRB) is composed of 35 members, elected for three year terms of office including:

16 Physicians	3 ESRD Nurses
3 ESRD Social Workers	3 ESRD Dietitians
3 ESRD Facility Administrators	4 ESRD Patients
3 ESRD Technicians	

The Medical Review Board functions with the concurrence and subject to the review and control of the Board of Trustees. The President of the Board of Trustees serves in an ad hoc capacity. The MRB performs functions prescribed by the regulations issued by the Secretary of Health and Human Services, as well as other duties related to quality improvement, vocational rehabilitation, and patient concerns as requested by the Network Coordinating Council. The MRB met on February 6 and 7, May 7 and 8, September 12 (conference call), and November 13 and 14.

Members of the MRB for 2001 were:

George Aronoff, M.D., Chairperson	Robert Mutterperl, D.O., Chairperson
Ashwini Sehgal, M.D., Vice Chairperson	
Claire Callahan, R.D.	Diane Cook, R.N.
David Charney, M.D.	Peter DeOreo, M.D.
John Dillon, M.D.	John Ducker, M.D.
Robert Felter	
Andrew Finnegan, C.H.T.	Sandra Fritsch, R.N., J.D.
Elisabeth Fry, R.D., L.D.	Clifford Glynn, C.H.T.
Karen Griffin, M.D.	Janet Hanson
Brenda Heath, R.N.	Carol Jackson, M.S.W.
Meghan Hiland, M.S.S.A.	Maria Karalis, R.D.
Stephen McMurray, M.D.	Romeo Micat, M.D.
Dennis Muter, C.H.T.	Kathy Olson, R.N.
Rosemary Ouseph, M.D.	Harry Rubinstein, M.D.
C. Frederic Strife	Marcia Silver, M.D.
Robert Sollod, Ph.D.	Martinlow Spaulding
Charles Sweeney, M.D.	Eddie Taylor
Linda Ulerich, R.D.	Margaret Westbrook, M.S.W.
Jay B. Wish, M.D.	Steven Zelman, M.D.

During 2001, the Medical Review Board:

- ◆ Continued the refinement of the tables and the distribution of The Physician Activity Report. This report, shows Network nephrologists their patient data from the Clinical Performance Measures, as reported via the unique physician identification number (UPIN). These reports were mailed to more than 600 nephrologists at three times during 2001: March, July, and October.
- ◆ Completed the implementation of the CMS required Adequacy of Hemodialysis QIP. Based on national data from the fourth quarter 1998, the percentage of patients with a mean URR  $\geq 65\%$  in Network 9/10 were below 80%. Hemodialysis programs were selected to participate in this project if the fourth quarter data for the 1999 Clinical Performance Measure URR rate was in the lowest 25<sup>th</sup> percentile. Interventions were implemented, and included: feedback reports, education materials in a Quality Improvement Kit (Q.I.K. box), workshops, and facility developed improvement projects addressing hemodialysis adequacy.
- ◆ Worked to refine the repository of Network aggregate data, called The Renal Network Data System (TRNDS). The repository was developed to encourage members of the Network, as well as the renal community at large, to use the data for their own quality improvement endeavors. Data from TRNDS was used to present seven abstracts at the 2001 meeting of the American Society of Nephrology. Additionally, a publication on barriers to transplantation written by Ash Sehgal, M.D., chairperson of the Data Analysis Subcommittee of the MRB was accepted by the *Journal of the American Medical Association*.
- ◆ Oversaw the dissemination of a Facility Profile, which displays descriptive data from each facility, with comparisons of regional, state, Network and national statistics for those same areas, including demographic and diagnosis data. Included also are SMR and gross mortality. These profiles are distributed annually to each facility to help them in their continuous quality improvement efforts.
- ◆ Maintained data collection and report distribution of the Facility Intervention Profile. The profile is achieved by combining data from various areas of Network participation to provide a comprehensive view of facility performance. Facilities which proved to be outliers were targeted for specialized intervention and overview by the Medical Review Board.
- ◆ Oversaw the activities of the Pediatric Renal Group, a subcommittee of the Medical Review Board. The goal of the group is to act as a resource to the Network on the care and treatment of pediatric dialysis and transplant patients. The Pediatric Renal Group met on May 10. Subcommittee work was accomplished through conference calls during the year.
- ◆ Oversaw the activities of the Transplant Task Force, a specialty group organized to advise on matters regarding renal transplantation. The purpose is two-fold: to educate the transplant community on The Renal Network and to offer assistance to the transplant community. The Task Force met on March 13 and September 25. It focused on redefining transplant status codes to provide better data on patients awaiting transplant, and in developing educational materials for patients and staff.



- ◆ Received continuous updates on the activities of CMS and the ESRD Network Scope of Work, the United States Renal Data System (USRDS), The Forum of ESRD Networks, and the Quality Assurance Committee of The Forum.
- ◆ Reviewed data profiles, including rates for clinical performance measures, mortality, home therapy, and transplantation.
- ◆ Reviewed grievances filed with the Network.
- ◆ Oversaw the implementation of the CMS clinical performance measures project.
- ◆ Worked to develop an electronic model long term program/short term care plan module. When completed, this will be incorporated into the NephTrak software. Its use will be voluntary by Network facilities.

Transplantation Task Force. To further enhance its focus on transplantation, the MRB established, with the approval of the Board of Trustees, a Transplant Task Force. This group is charged to advise on the status of renal transplantation within Network 9/10; all members come from within the transplant community. During 2001, the task force decided that its focus will be on refining transplant status codes to develop a facility-specific report which will show dialysis facilities how their units perform in the area of placing patients on the waiting list, in comparison with regional and state achievements. A second area of focus will be to develop and disseminate educational materials. The task force is chaired by Thomas Waid, M.D., a transplant nephrologist from the University of Kentucky. Dr. Waid is a past member of the Medical Review Board.

Other members include:

Jim Callahan, Transplant Patient Representative

Orland Park, Illinois

Nancy Durance, R.N.,

University Hospitals of Cleveland- Transplant

Brian Haag, M.D.

Methodist Hospital/Clarian Health, Indianapolis

Bruce Lucas, M.D.

University of Kentucky Medical Center, Lexington

Akinlolu Ojo, M.D., Ph.D., Consultant

University of Michigan Health System. Ann Arbor

Rosemary Ouseph, M.D.

University of Louisville, Kidney Disease Program

Ash Sehgal, M.D.

MetroHealth Medical Center, Cleveland, OH

Roseann Sweda, R.N.

Department of Transplant Surgery, University of Chicago

Linda Ulerich, R.D.

Methodist Hospital/Clarian Health, Indianapolis, IN

Steve Woodle, M.D.

University of Cincinnati, Department of Surgery

Jay B. Wish, M.D. (*ex officio*)

University Hospitals of Cleveland

George Aronoff, M.D. (*ex officio*)

University of Louisville, Kidney Disease Program

Caleb Alexander, M.D., Research Fellow

Patient Leadership Committee: The purpose of the Patient Leadership Committee (PLC) is to identify and address ESRD patient needs and concerns through the development of educational projects and activities. The PLC met on March 15, June 15, September 6, and November 9, 2001.

Members of the Patient Leadership Committee during 2001:

Celia Chretien	William Combs
Loraine Edmond	Robert Felter
Craig Fisher	Pearl Hirsh
Diane Hohwald	Kathy Kirk
Ellen Newman	Bob Nordsiek
Jan Nordsiek	Ruth Richards
Micahel Richards	Catherine Simmons
Martinlow Spaulding	Rose Stoia
Charlotte Szromba	Eddie Taylor
Nancy Ware, L.I.S.W.	

During 2001:

An orientation was held for new members who would also serve on the Medical Review Board or Board of Trustees.

The committee provided direction for the new Network patient Web site ([www.kidneypatientnews.org](http://www.kidneypatientnews.org)), a model for a patient report card for lab values, and input on inner city needs of dialysis patients.

The PLC subcommittees accomplished during 2001:

The **Pediatric Subcommittee** focused on the educational needs of pediatric preadolescents and adolescent renal patients. The committee developed a variety of situations that adolescents often experience either at home or at school. An additional meeting was held in Ohio to develop the format to address these educational needs. A draft booklet was developed for social workers to use with patients on a monthly basis, either individually or as a group.

Work continues with Purdue University at Indianapolis to develop a CD-ROM educational game for children. A conference call was held to review the outline of the game.

The **Family Subcommittee** identified needs of family members and summarized their findings in an article for the patient newsletter. They are working on key points for a script for a videotape which will give an overview of how family members are affected by kidney failure.

The **Special Projects Subcommittee** reviewed and updated the Network's patient manual. They also wrote two staff articles on compliance. Additionally, an article on compliance was published in the patient newsletter.

The **Patient Education Subcommittee** developed a brochure on early renal insufficiency and a draft of an early identification card with symptoms of early kidney failure.

Patient Advisory Council: The Patient Advisory Council (PAC) membership includes approximately 200 patients appointed by their facilities to act as liaisons to the Network. The following PAC activities were accomplished during 2001:

- ◆ PAC Handbook developed and distributed to all new PAC Representatives.
- ◆ The PAC newsletter, *PAC ActionGram*, highlighted adequacy of dialysis and included three posters and suggested activities that PAC Reps could initiate with the support of their social worker.
- ◆ The PAC Reps in northern Indiana and the Chicago area held a forum meeting in April in Oaklawn, Illinois to discuss patient lab value reports and inner city issues of kidney patients.
- ◆ New PAC Rep database was developed.

## II. CMS NATIONAL GOALS & NETWORK ACTIVITIES

All ESRD Network organizations are responsible for the goals listed in the following section. Under each goal are the activities which were accomplished during 2001 toward meeting each goal:

### ***GOAL 1: Improving the quality of health care services and quality of life for ESRD beneficiaries.***

Improving quality of care for ESRD beneficiaries was accomplished through clinical initiatives developed and supervised by the Medical Review Board and implemented by the Quality Improvement Department of The Renal Network, Inc.

These activities can be categorized in four main subject areas; each is described in the following section of this report:

- The Clinical Performance Measures Project
- Networks 9/10 CPM Interventions
- CMS National CPM Project
- Network Special Projects/Studies
- Focused Quality Assurance Activities

### **A. The Clinical Performance Measures Project**

The Clinical Performance Measures (CPM) Project contributes to a consistent clinical database to assess patient outcomes and support improvement activities at Network 9/10 and facilities. The elements of the database represent clinical measures indicating key components of ESRD patient care. In 2001, all dialysis facilities participated in the Network-wide improvement project. The goals of the project are to:

- (1) increase the knowledge and awareness of the CPM Project to Network 9/10 ESRD providers,
- (2) analyze the applicability of the CPMs on facility and network levels,
- (3) implement improvement intervention programs on a Network-wide level, and,
- (4) improve patient outcomes.

The Renal Network maintains a process to collect, analyze, and provide data feedback reports to facilities. In the Network-wide CPM project, facilities collected data on 100% of prevalent patients and electronically submitted this to the Network for analysis. There were three hemodialysis (HD) collections: April, July and fourth quarter 2001. Peritoneal dialysis (PD) data were collected in three, four-month cycles: January-April 2001 (J-A01), May-August 2001 (M-A01), and September-December 2001 (S-D01). The data were analyzed by the MRB and feedback reports were distributed after each collection. The patient demographics and facility participation rates by state and Network 9/10 are described in Tables D.1 and D.2.

#### Comparison of HD Outcomes from 4<sup>th</sup> Quarter 2000 to 4<sup>th</sup> Quarter 2001

- % patients with average URR  $\geq$  65% increased from 81% to 85%
- Average URR increased from 70.3% to 71.2%
- % patients with average Kt/V <sub>Daugirdis II</sub>  $\geq$  1.2 increased from 86% to 89%
- Average Kt/V <sub>Daugirdis II</sub> increased from 1.50 to 1.52
- Average hemoglobin increased from 11.6 to 11.8 gm/dL
- % patients with average hemoglobin  $\geq$  11 gm/dL increased from 72% to 77%
- % patients with average hemoglobin between 11-12 gm/dL decreased from 35% to 34%
- % patients with average hemoglobin  $\geq$  12 gm/dL increased from 38% to 46%
- % of patients with average albumin  $\geq$  3.5 gm/dL increased from 79% to 82%
- Average albumin increased from 3.73 to 3.79 gm/dL

Comparison of PD Outcomes from September – December Cycle 2000 – 2001

- % patients with measurement of weekly Creatinine Clearance(CrCl) or weekly Kt/V increased from 77% to 84%
- % patients meeting weekly CrCl or Kt/V target increased from 85% to 87%
- Average hemoglobin increased from 11.89 to 11.9 gm/dL
- % patients with average hemoglobin  $\geq$  11 gm/dL increased from 71% to 73%
- % patients with average hemoglobin between 11-12 gm/dL increased from 29% to 30%
- % patients with albumin  $\geq$  3.5 gm/dL increased from 60% to 61%
- Average albumin increased from 3.53 to 3.57 gm/dL

1. CPM Results.

Three clinical areas are addressed in the CPM project. The treatment of anemia includes the first monthly pre-dialysis hemoglobin (HGB), transferrin saturation (TSAT), serum ferritin concentration and weekly Epopo (Epo) dosage. HD adequacy contains the first monthly-paired pre/post serum urea nitrogen for a urea reduction ratio (URR) and a calculation of Kt/V using the Daugirdas II methodology. PD adequacy uses the reported weekly creatinine clearance and Kt/V. The nutritional status is measured by the serum albumin; bromocresol purple (BCP) assay measurements are adjusted by + 0.3 for comparison with the bromocresol green (BCG) measurements.

**Table A.1. 2001 April, July & 4<sup>th</sup> Quarter Hemodialysis (HD) Patient Demographics & Facility Participation**

Patient Demographics	Illinois			Indiana			Kentucky			Ohio			Network 9/10		
	Apr	July	4Q	Apr	July	4Q	Apr	July	4Q	Apr	July	4Q	Apr	July	4Q
Total Number	9332	9730	<b>11717</b>	4436	4621	<b>5469</b>	2693	2863	<b>3178</b>	9423	9579	<b>11000</b>	25889	26798	<b>30529</b>
Sex															
Men	54%	54%	<b>54%</b>	53%	53%	<b>53%</b>	54%	55%	<b>55%</b>	53%	53%	<b>53%</b>	53%	53%	<b>54%</b>
Women	46	46	<b>46</b>	47	47	<b>47</b>	46	45	<b>45</b>	47	47	<b>47</b>	47	47	<b>46%</b>
Race															
Black	43%	45%	<b>44%</b>	32%	32%	<b>32%</b>	29%	29%	<b>28%</b>	39%	40%	<b>39%</b>	38%	39%	<b>38%</b>
White	50	49	<b>50</b>	66	66	<b>66</b>	70	70	<b>70</b>	59	58	<b>59</b>	58	57	<b>58</b>
Other	6	6	<b>6</b>	2	2	<b>2</b>	1	1	<b>1</b>	1	2	<b>2</b>	4	3	<b>4</b>
Age in years															
< 18	*%	*%	<b>*%</b>	*%	*%	<b>*%</b>	*%	*%	<b>*%</b>	*%	*%	<b>*%</b>	*%	*%	<b>*%</b>
18-44	15	15	<b>15</b>	16	15	<b>15</b>	17	17	<b>17</b>	15	15	<b>14</b>	15	15	<b>15</b>
45-64	38	36	<b>38</b>	35	35	<b>35</b>	37	37	<b>38</b>	35	35	<b>35</b>	36	36	<b>36</b>
65-74	25	26	<b>24</b>	25	25	<b>26</b>	26	27	<b>26</b>	26	27	<b>27</b>	26	26	<b>25</b>
75+	22	22	<b>23</b>	24	24	<b>24</b>	19	19	<b>20</b>	23	23	<b>24</b>	22	22	<b>23</b>
Primary Dx															
DM	36%	37%	<b>37%</b>	39%	39%	<b>39%</b>	42%	42%	<b>43%</b>	43%	44%	<b>44%</b>	40%	40%	<b>41%</b>
HTN	34	34	<b>34</b>	30	31	<b>30</b>	24	25	<b>24</b>	23	23	<b>23</b>	29	29	<b>28</b>
GN	11	11	<b>10</b>	12	12	<b>11</b>	13	13	<b>12</b>	14	14	<b>14</b>	12	12	<b>12</b>
Other	18	18	<b>18</b>	19	19	<b>19</b>	21	20	<b>20</b>	19	19	<b>19</b>	19	19	<b>19</b>
Unknown	*	*	<b>*</b>	*	*	<b>*</b>	*	*	<b>*</b>	*	1	<b>*</b>	*	*	<b>*</b>
% Facility Participation	92	94	<b>99</b>	99	100	<b>100</b>	96	100	<b>100</b>	95	97	<b>100</b>	95	97	<b>99</b>

\*% represents less than one percent. Subgroup total may not add to 100% due to rounding or missing data elements.

**Table A.2. 2001 Peritoneal Dialysis (PD) Patient Demographics & Facility Participation**

Patient Demographics	Illinois			Indiana			Kentucky			Ohio			Network 9/10		
	J-A 01	M-A 01	S-D 01	J-A 01	M-A 01	S-D 01	J-A 01	M-A 01	S-D 01	J-A 01	M-A 01	S-D 01	J-A 01	M-A 01	S-D 01
Total Number	998	1081	<b>973</b>	670	691	<b>722</b>	254	266	<b>285</b>	1242	1207	<b>1178</b>	3174	3245	<b>3158</b>
Sex															
Men	48%	50%	<b>52%</b>	54%	53%	<b>51%</b>	55%	54%	<b>56%</b>	51%	49%	<b>50%</b>	51%	51%	<b>51%</b>
Women	52	50	<b>48</b>	46	47	<b>49</b>	44	46	<b>44</b>	49	51	<b>50</b>	49	49	<b>49%</b>
Race															
Black	23%	26%	<b>24%</b>	20%	22%	<b>22%</b>	13%	10%	<b>12%</b>	24%	25%	<b>24%</b>	23%	24%	<b>22%</b>
White	68	64	<b>68</b>	76	75	<b>75</b>	88	90	<b>88</b>	74	72	<b>74</b>	68	72	<b>73</b>
Other	9	9	<b>8</b>	3	3	<b>4</b>	1	0	<b>1</b>	1	2	<b>3</b>	9	4	<b>4</b>
Age in years															
< 18	2%	2%	<b>2%</b>	3%	3%	<b>3%</b>	0%	0%	<b>0%</b>	2%	3%	<b>2%</b>	2%	2%	<b>2%</b>
18-44	24	24	<b>23</b>	24	24	<b>24</b>	24	24	<b>24</b>	24	24	<b>23</b>	24	24	<b>23</b>
45-64	44	45	<b>43</b>	44	42	<b>41</b>	54	48	<b>48</b>	44	44	<b>42</b>	44	44	<b>43</b>
65-74	20	17	<b>19</b>	20	21	<b>22</b>	14	17	<b>15</b>	21	20	<b>20</b>	20	19	<b>20</b>
75+	10	11	<b>12</b>	10	10	<b>11</b>	9	11	<b>9</b>	9	11	<b>12</b>	10	11	<b>11</b>
Primary Dx															
DM	34%	32%	<b>34%</b>	36%	34%	<b>34%</b>	39%	40%	<b>40%</b>	43%	42%	<b>42%</b>	38%	37%	<b>38%</b>
HTN	21	22	<b>21</b>	21	21	<b>22</b>	18	18	<b>18</b>	14	14	<b>16</b>	18	19	<b>19</b>
GN	22	22	<b>21</b>	19	19	<b>19</b>	17	18	<b>19</b>	19	20	<b>19</b>	19	20	<b>20</b>
Other	22	22	<b>21</b>	25	25	<b>24</b>	26	25	<b>24</b>	24	24	<b>23</b>	24	24	<b>23</b>
Unknown	2	2	<b>3</b>	0	0	<b>0</b>	0	0	<b>0</b>	0	0	<b>0</b>	1	1	<b>1</b>
% Facility Participation	92	96	<b>94</b>	97	97	<b>97</b>	95	95	<b>100</b>	98	97	<b>98</b>	96	96	<b>97</b>

Subgroup total may not add to 100% due to rounding or missing data elements.

**2.a. Treatment of Anemia - Hemodialysis.** Figure A.1. shows the percent of patients with average pre-dialysis HGB  $\geq$  11 gm/dL. Network 9/10 rates had a statistical increase of 5% between the 4<sup>th</sup> quarter 2000 and 4<sup>th</sup> quarter 2001 with state rates ranging from 3%-6%.

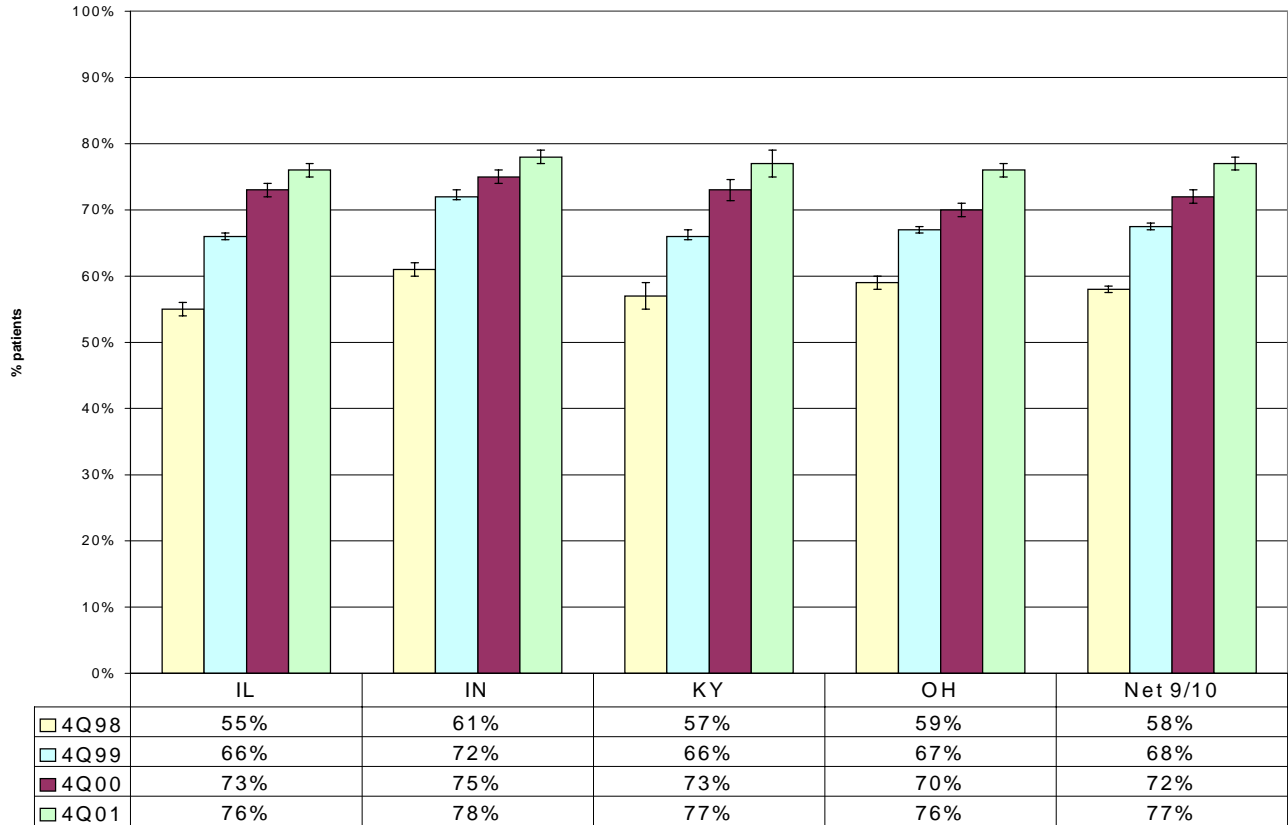
Figure A.2. and Table A.3 show the distribution of HGB values for the states, Network 9/10 and the United States. The average HGB increased to 11.6 gm/dL in the 4<sup>th</sup> quarter 2000 and Network 9/10 data for the 4<sup>th</sup> quarter 2001 showed an increase to 11.8 gm/dL. In all states, the percentage of patients with average HGB  $\geq$  12 gm/dL increased.

Table A.4. compares average and standard deviation values by state for HGB, TSAT, Ferritin and Epo dose. The more frequent route of Epogen™ administration was reported as intravenous at 84%. This was an increase of 4% from 4<sup>th</sup> quarter 2001. The average Epogen™ dose increased from 240 to 252 units/kilogram/week in the fourth quarter 2001. Iron prescriptions were reported for 18,184 HD patients in the 4<sup>th</sup> quarter of 2001. Of the patients who were prescribed iron, 92% were prescribed intravenous iron, an increase of 4% from the previous fourth quarter. Between the 4<sup>th</sup> quarters of 1997 and 2001, the average TSAT ranged between 28% to 29.0%. The average ferritin increased from 561 ng/mL to 679 ng/mL.

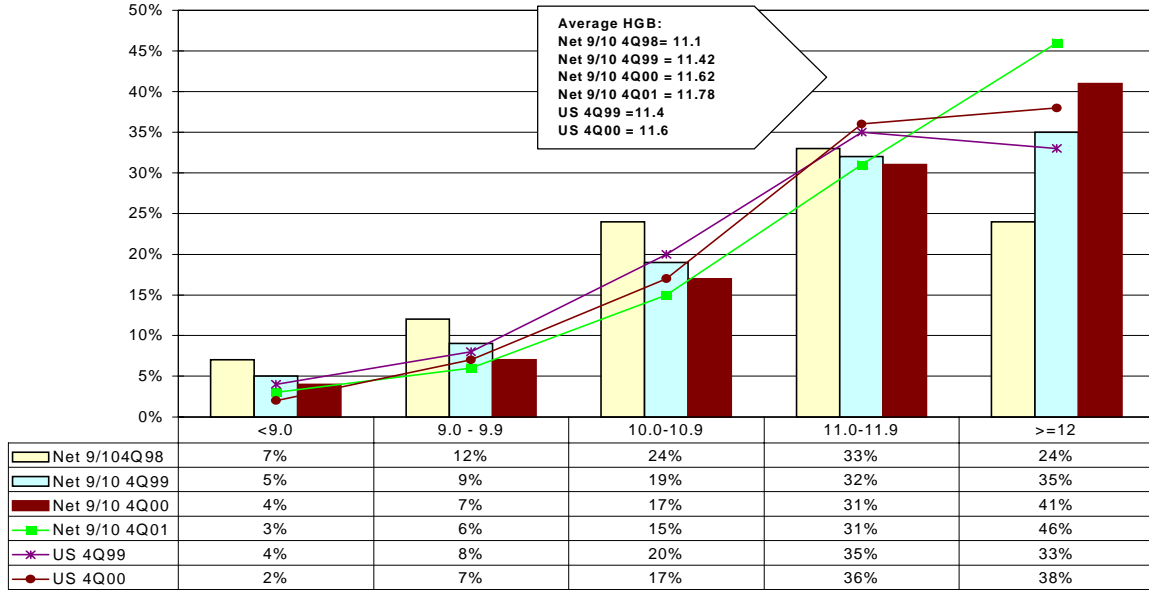
Figures A.3. & A.4. compare HD patients with TSAT and ferritin between states and Network 9/10 for the 4<sup>th</sup> quarters of 1999 and 2001.

Table A.5. compares the percent of HD patients with paired TSAT < 20% and Ferritin < 100 ng/mL from 4th quarter 1997-2001.

Figure A.1. Percentage of HD Patients with HGB >= 11 gm/dL by State and Networks 9/10



**Figure A.2. Distribution of HD Hemoglobin Values (gm/dL) in Networks 9/10 & U.S.**



**Table A.3. Distribution of HD HGB values (gm/dL) by State.**

	< 9	9 - 9.9	10 - 10.9	11 - 11.9	≥12
IL 4Q98	8%	12%	25%	32%	23%
IL 4Q99	6%	9%	19%	32%	34%
IL 4Q00	4%	7%	16%	30%	43%
<b>IL 4Q01</b>	<b>3%</b>	<b>6%</b>	<b>14%</b>	<b>30%</b>	<b>47%</b>
IN 4Q98	5%	10%	23%	35%	26%
IN 4Q99	4%	7%	18%	32%	40%
IN 4Q00	3%	6%	16%	31%	44%
<b>IN 4Q01</b>	<b>2%</b>	<b>6%</b>	<b>14%</b>	<b>30%</b>	<b>48%</b>
KY 4Q98	8%	11%	24%	34%	23%
KY 4Q99	6%	9%	19%	34%	32%
KY 4Q00	3%	8%	17%	32%	41%
<b>KY 4Q01</b>	<b>2%</b>	<b>6%</b>	<b>15%</b>	<b>33%</b>	<b>44%</b>
OH 4Q98	7%	12%	24%	34%	24%
OH 4Q99	4%	9%	20%	32%	35%
OH 4Q00	3%	8%	19%	33%	37%
<b>OH 4Q01</b>	<b>3%</b>	<b>6%</b>	<b>16%</b>	<b>32%</b>	<b>44%</b>

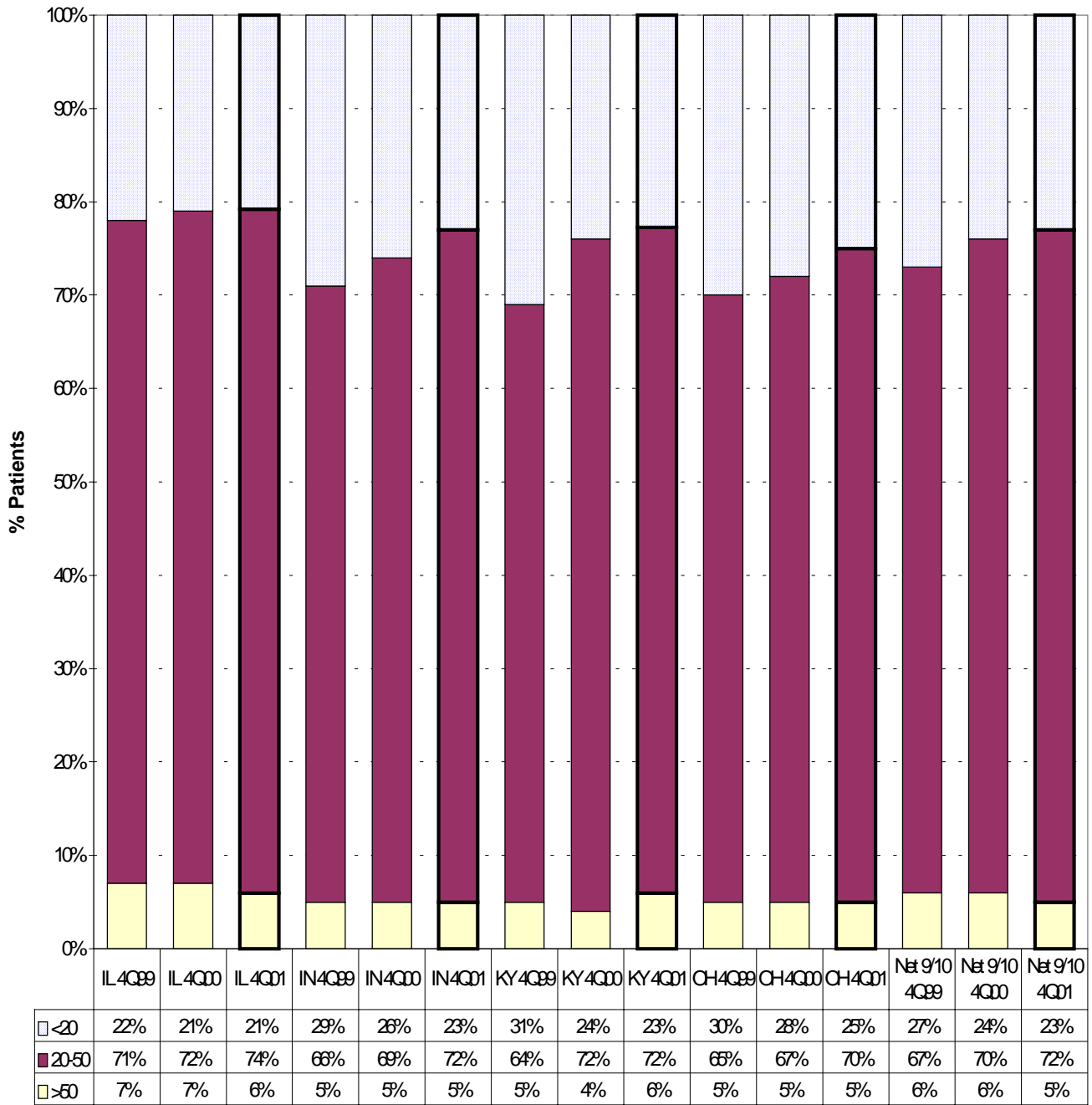
Subgroup total may not add to 100% due to rounding



**Table A.4. HD Anemia Management Measures by State and Networks 9/10.**

	Illinois		Indiana		Kentucky		Ohio		Net 9/10	
	avg	sd	avg	sd	avg	sd	avg	sd	avg	sd
HGB 4Q98	11.0	1.6	11.2	1.3	11.0	1.3	11.1	1.3	11.1	1.4
HGB 4Q99	11.4	1.4	11.6	1.4	11.4	1.4	11.4	1.4	11.4	1.4
HGB 4Q00	11.7	1.4	11.7	1.3	11.7	1.4	11.5	1.3	11.6	1.4
<b>HGB 4Q01</b>	<b>11.8</b>	<b>1.4</b>	<b>11.9</b>	<b>1.3</b>	<b>11.8</b>	<b>1.3</b>	<b>11.7</b>	<b>1.3</b>	<b>11.8</b>	<b>1.4</b>
TSAT 4Q97	29.0	13.9	29.5	13.3	28.5	13.7	26.7	13.0	29.0	13.9
TSAT 4Q98	30.2	14.3	27.6	13.0	27.5	13.4	26.9	13.2	28.4	13.7
TSAT 4Q99	29.7	13.4	27.2	12.9	26.4	12.3	26.9	12.6	28.0	13.0
TSAT 4Q00	29.7	13.2	27.7	12.4	27.8	11.9	27.1	12.7	28.3	12.8
<b>TSAT 4Q01</b>	<b>28.7</b>	<b>12.3</b>	<b>28.2</b>	<b>12.1</b>	<b>28.4</b>	<b>12.3</b>	<b>27.8</b>	<b>12.7</b>	<b>28.3</b>	<b>12.4</b>
Ferritin 4Q97	431	425	523	429	409	391	508	437	469	429
Ferritin 4Q98	459	430	534	462	436	400	516	421	489	431
Ferritin 4Q99	465	461	545	469	507	424	558	446	514	456
Ferritin 4Q00	556	437	565	426	547	425	568	442	561	436
<b>Ferritin 4Q01</b>	<b>693</b>	<b>484</b>	<b>674</b>	<b>444</b>	<b>651</b>	<b>480</b>	<b>676</b>	<b>507</b>	<b>679</b>	<b>485</b>
Epo dose										
u/kg/wk 4Q97	227	880	205	158	229	223	228	205	223	570
u/kg/wk 4Q98	250	200	220	180	241	191	243	193	241	194
u/kg/wk 4Q99	257	194	239	197	223	183	228	200	240	196
u/kg/wk 4Q00	247	199	240	210	232	188	235	208	240	203
<b>u/kg/wk 4Q01</b>	<b>283</b>	<b>221</b>	<b>262</b>	<b>213</b>	<b>274</b>	<b>212</b>	<b>275</b>	<b>221</b>	<b>276</b>	<b>219</b>

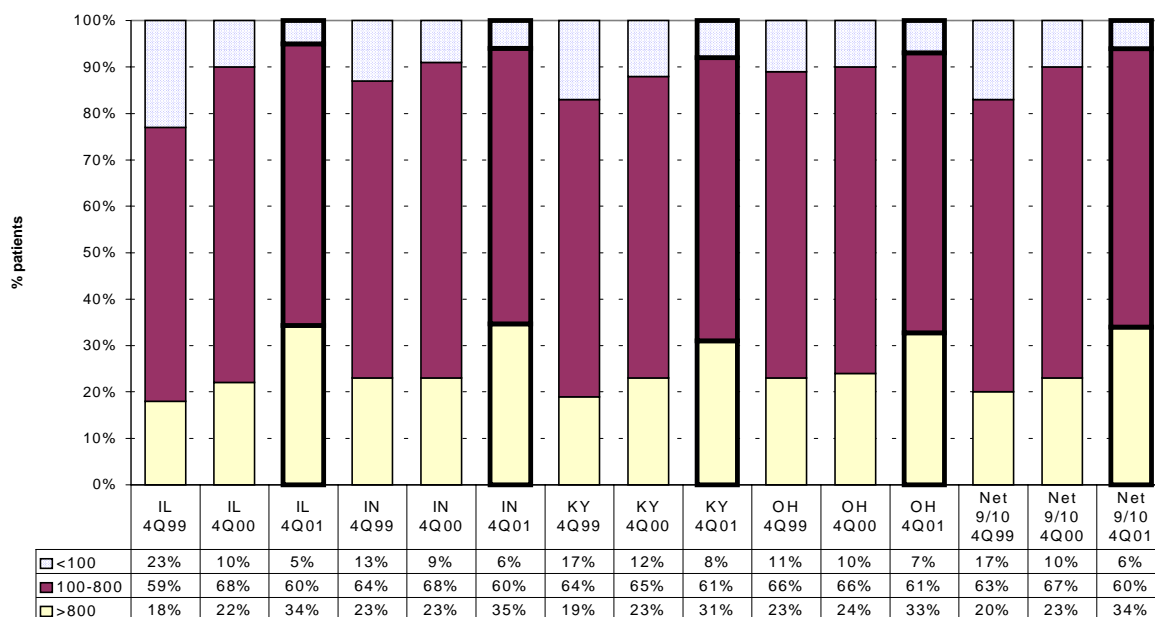
**Figure A3. Percent HD Patients with TSAT 4Q99-4Q01 by State & Networks 9/10**



**Table A.5. Anemia Management Measures for Percent of HD Patients in 4th Quarter 1997-2001 with Paired TSAT <20% & Ferritin < 100 ng/mL by State and Networks 9/10**

4 <sup>th</sup> Quarter – Year	Illinois	Indiana	Kentucky	Ohio	Net 9/10
1997	10%	6%	12%	6%	8%
1998	8%	7%	12%	6%	8%
1999	7%	6%	9%	6%	7%
2000	4%	5%	6%	5%	5%
<b>2001</b>	<b>3%</b>	<b>3%</b>	<b>4%</b>	<b>3%</b>	<b>3%</b>

**Figure A.4. Percent HD Patients with Ferritin (ng/mL) 4Q99 - 4Q01 by State & Networks 9/10**



2.b. Treatment of Anemia – Peritoneal Dialysis. Anemia management measures show improvement in each of the reporting cycles.

Figure A.5. shows the percentage of patients with average HGB  $\geq$  11 gm/dL for the states and Network 9/10. Network 9/10 rates improved from 71% to 73% between September –December 1999-2001 (U.S. rate 73%).

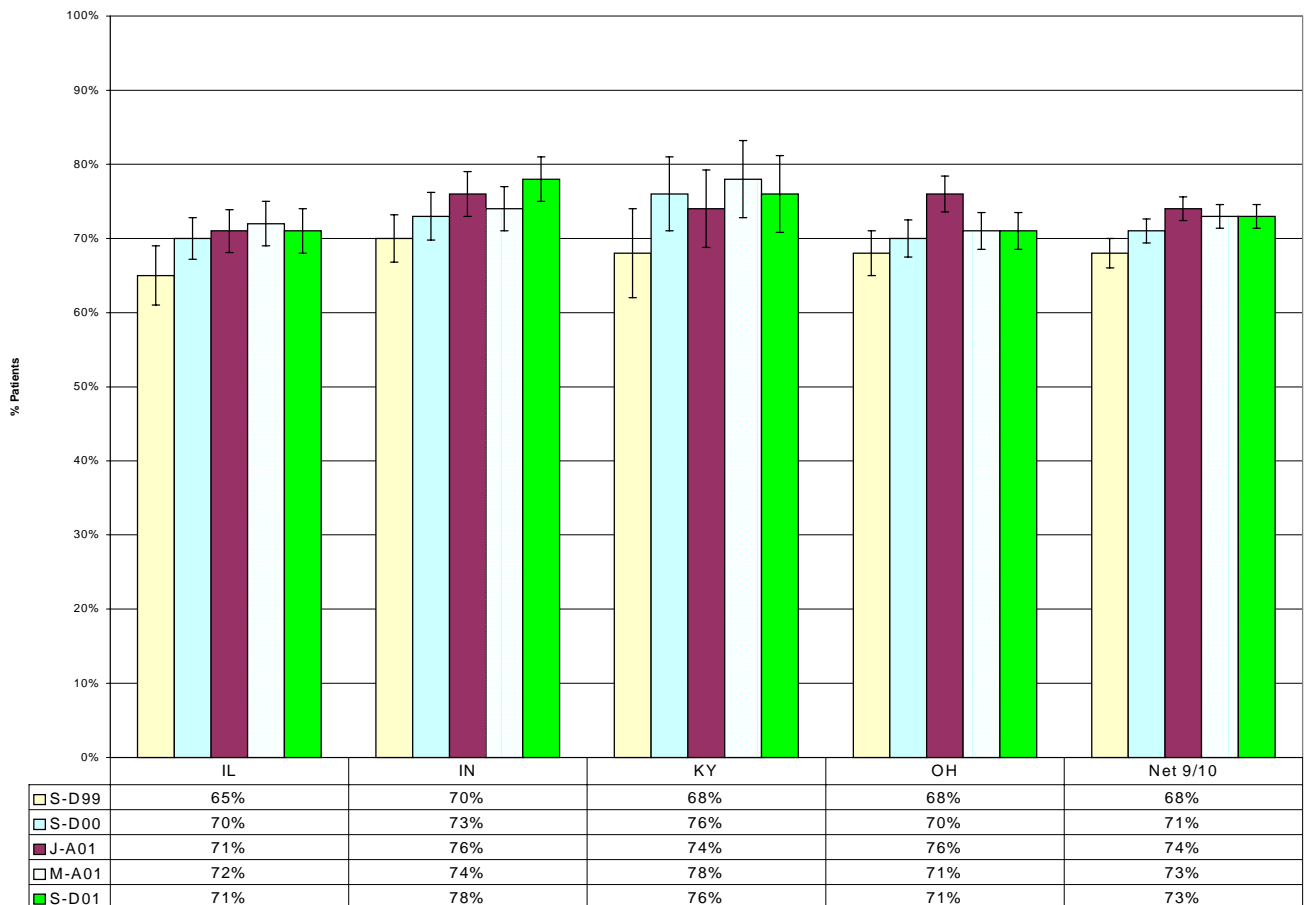
Table A.6. shows the distribution of HGB values for the states. The distribution is shifting to the right, indicating improvements.

Table A.7. reports averages and standard deviations of the HGB, TSAT, Ferritin and EPO dose measurements. In the September-December 2001 cycle, the more frequent route of Epogen™ administration was reported as subcutaneous at 98%. The average Epogen™ dose increased from 155 to 162 units/kilogram/week between September-December 2000-2001.

Figures A.6. and A.7. compare the TSAT and Ferritin values by state and Network 9/10 for the periods January through April 2001 through September through December 2001.

Table A.8. shows state comparisons for paired TSAT < 20 % and Ferritin < 100 ng/mL measures, the Networks 9/10 rate is 7% (U.S. rate 5%). Iron prescriptions were reported for 1875 patients in September –December 2001, 15% of these patients were reported having an IV iron prescription; this is an increase of 5% from the same cycle time period in 2000.

**Figure A.5. Percentage of PD Patients with HGB >= 11 gm/dL by State and Networks 9/10**



**Table A.6. Distribution of PD HGB values (gm/dL) by State.**

	< 9	9-9.9	10-10.9	11-11.9	12+
IL S-D99	6%	10%	20%	25%	40%
IL S-D00	4%	8%	19%	27%	43%
IL J-A01	5%	9%	15%	27%	44%
IL M-A01	6%	8%	14%	27%	45%
<b>IL S-D01</b>	<b>4%</b>	<b>8%</b>	<b>17%</b>	<b>24%</b>	<b>48%</b>
IN S-D99	4%	9%	18%	27%	43%
IN S-D00	4%	6%	17%	28%	45%
IN J-A01	4%	5%	15%	26%	50%
IN M-A01	4%	7%	16%	29%	45%
<b>IN S-D01</b>	<b>3%</b>	<b>5%</b>	<b>15%</b>	<b>25%</b>	<b>53%</b>
KY S-D99	6%	6%	18%	25%	46%
KY S-D00	5%	5%	14%	27%	50%
KY J-A01	3%	8%	15%	24%	50%
KY M-A01	4%	4%	14%	32%	46%
<b>KY S-D01</b>	<b>3%</b>	<b>4%</b>	<b>17%</b>	<b>29%</b>	<b>47%</b>
OH S-D99	4%	9%	19%	27%	40%
OH S-D00	4%	7%	18%	26%	44%
OH J-A01	3%	6%	16%	27%	49%
OH M-A01	5%	7%	16%	28%	43%
<b>OH S-D01</b>	<b>2%</b>	<b>10%</b>	<b>17%</b>	<b>29%</b>	<b>42%</b>

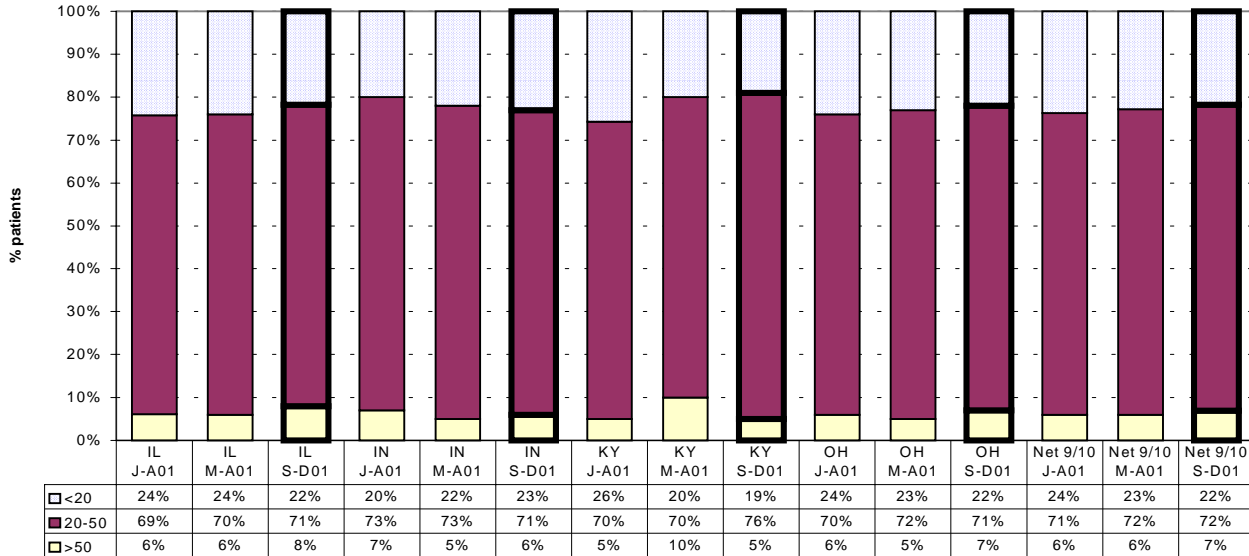
**Table A.7. PD Anemia Management Measures by State & Networks 9/10.**

	Illinois		Indiana		Kentucky		Ohio		Net 9/10	
	avg	sd	avg	sd	avg	sd	avg	sd	avg	sd
HGB S-D99	11.6	1.7	11.7	1.6	11.8	1.7	11.7	1.7	11.7	1.7
HGB S-D00	11.7	1.6	11.6	1.6	12.0	1.7	11.7	1.6	11.7	1.6
HGB J-A01	11.7	1.6	12.0	1.7	11.9	1.6	12.0	1.6	11.9	1.6
HGB M-A01	11.7	1.7	11.9	1.7	11.9	1.6	11.8	1.7	11.8	1.7
<b>HGB S-D01</b>	<b>11.8</b>	<b>1.7</b>	<b>12.1</b>	<b>1.6</b>	<b>12.0</b>	<b>1.6</b>	<b>11.8</b>	<b>1.7</b>	<b>11.9</b>	<b>1.7</b>
TSAT S-D99	29.8	13.9	29.1	14.5	28.9	13.6	27.3	12.4	28.6	13.6
TSAT S-D00	28.7	13.2	30.2	14.3	29.4	12.9	28.7	13.2	29.1	13.5
TSAT J-A01	28.8	13.4	29.1	13.2	27.5	13.3	28.1	12.9	28.8	13.1
TSAT M-A01	27.9	12.7	28.2	12.2	30.0	13.8	28.5	13.5	28.4	13.0
<b>TSAT S-D01</b>	<b>30.1</b>	<b>13.7</b>	<b>29.1</b>	<b>13.4</b>	<b>28.7</b>	<b>11.4</b>	<b>29.3</b>	<b>13.2</b>	<b>29.4</b>	<b>13.3</b>
Ferritin S-D99	346	418	465	505	294	282	359	394	378	429
Ferritin S-D00	385	396	510	520	389	435	394	438	418	450
Ferritin J-A01	384	407	459	438	380	405	396	421	405	421
Ferritin M-A01	403	451	572	421	382	352	393	438	410	433
<b>Ferritin S-D01</b>	<b>463</b>	<b>492</b>	<b>470</b>	<b>422</b>	<b>403</b>	<b>327</b>	<b>404</b>	<b>455</b>	<b>440</b>	<b>450</b>
Epo Dose										
u/kg/wk S-D99	147	127	147	127	147	114	140	135	147	127
u/kg/wk S-D00	155	136	154	142	164	138	153	143	155	141
u/kg/wk J-A01	144	104	147	145	170	129	149	132	148	127
u/kg/wk M-A01	166	168	151	128	176	128	157	152	160	151
<b>u/kg/wk S-D01</b>	<b>159</b>	<b>151</b>	<b>156</b>	<b>138</b>	<b>184</b>	<b>136</b>	<b>163</b>	<b>162</b>	<b>162</b>	<b>151</b>

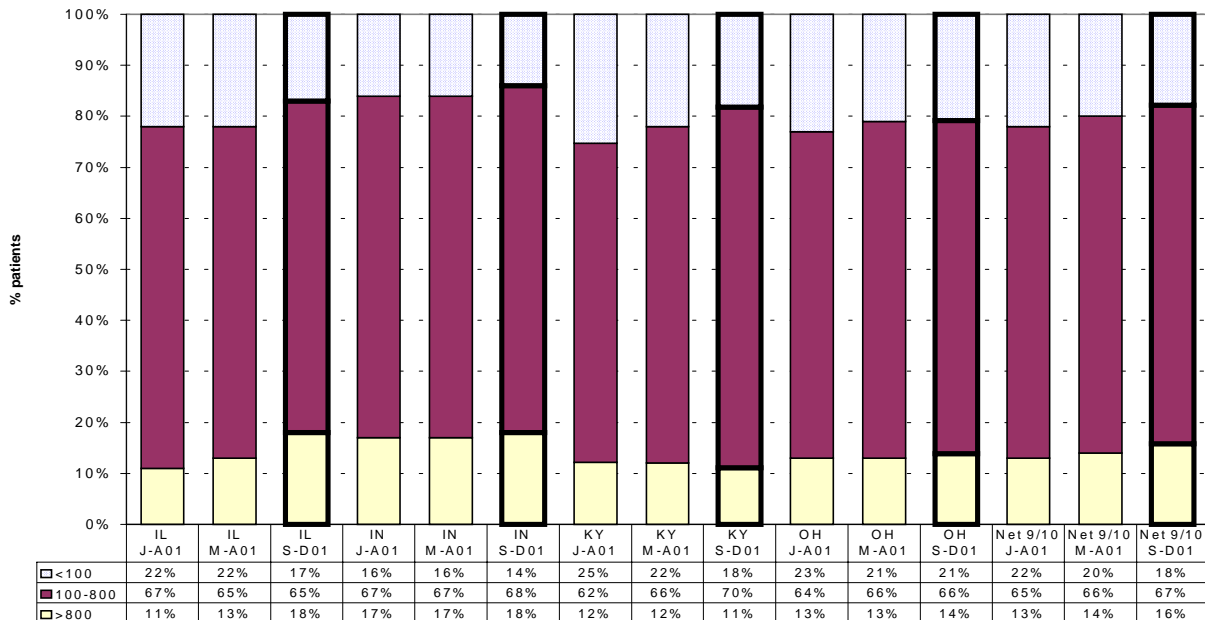
**Table A.8. Percentage of Patient Measurements from September-December 1999 to 2001 with Paired TSAT <20% & Ferritin < 100 ng/mL by State & Networks 9/10.**

	Illinois	Indiana	Kentucky	Ohio	Network 9/10
S-D99	10	9	8	11	10
S-D00	8	6	9	9	8
J-A01	10	6	6	10	9
M-A01	9	7	8	8	8
<b>S-D01</b>	<b>8</b>	<b>6</b>	<b>10</b>	<b>8</b>	<b>7</b>

**Figure A.6. Percent PD Patients with TSAT January-April 2001 - September-December 2001 by State & Networks 9/10**



**Figure A.7. Percent PD Patients with Ferritin (ng/mL) January-April 2001 - September-December 2001 by State & Networks 9/10**



**2.c. Adequacy of Hemodialysis.** Figure A.8. shows the percentage of patients with an average URR of 65% or greater by state, Network 9/10, and by year. An increase of 4% was noted from 4<sup>th</sup> quarter 2000 until 4<sup>th</sup> quarter 2001.

Figure A.9. shows the percentage of patients with an average Kt/V<sub>Daugirdis II</sub> of 1.2 or greater. There was a 3% increase from one year ago in the Network 9/10 rate. The 4<sup>th</sup> quarter 2001 average URR was 71.2% with a standard deviation of 7.0 and the average Kt/V<sub>Daugirdis II</sub> was 1.52 with a standard deviation of 0.33. The average HD treatment time increased three minutes, from 221 to 223.

Table A.9. shows URR, Kt/V<sub>Daugirdis II</sub> and treatment time averages and standard deviations by state and Networks 9/10.

Figures A.10. and A.11. show the distribution of URR and Kt/V<sub>Daugirdis II</sub> values for 4<sup>th</sup> quarter 1996-2001. The curves shift to the right, which indicates adequacy outcome improvements over time.

**Figure A.8. Percentage of HD Patients with URR >= 65%  
by State & Networks 9/10**

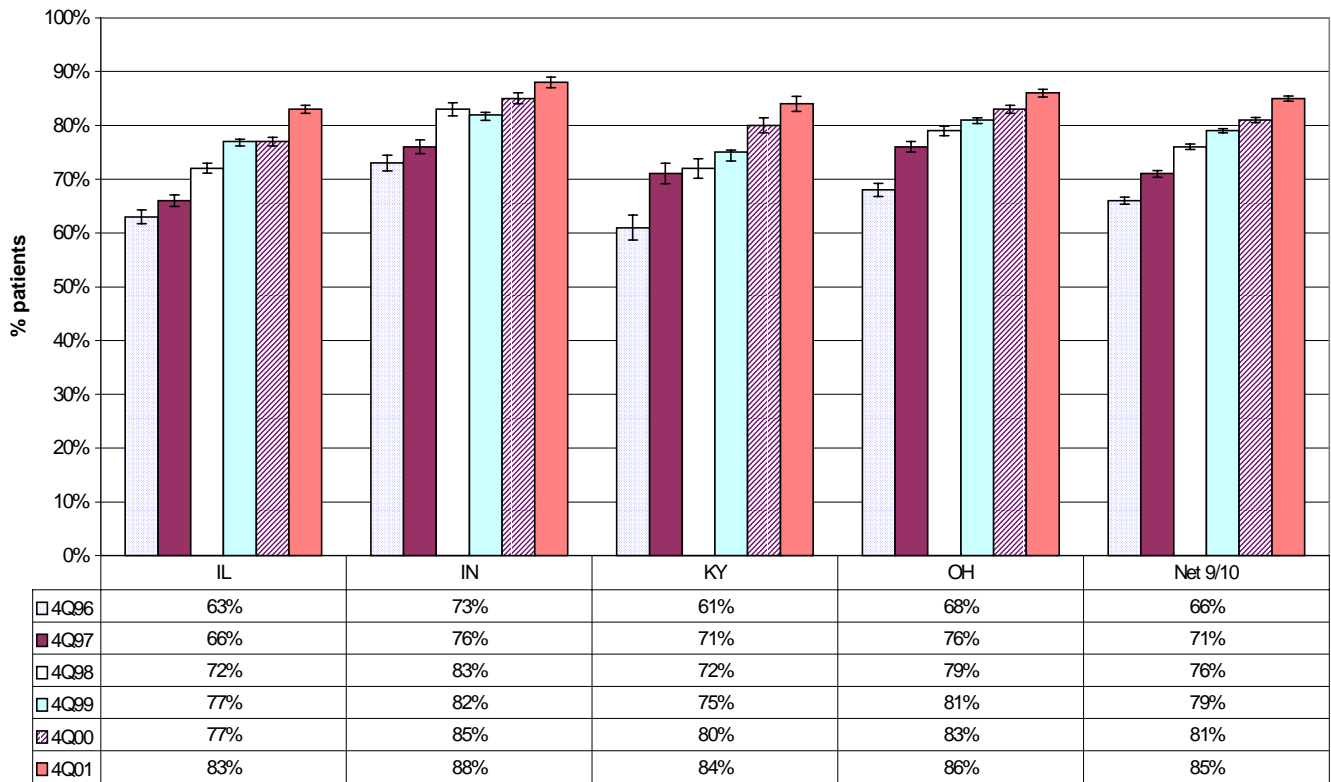


Figure A.9. Percentage of HD Patients with Kt/V<sub>Daugirdas II</sub> ≥ 1.2 by State

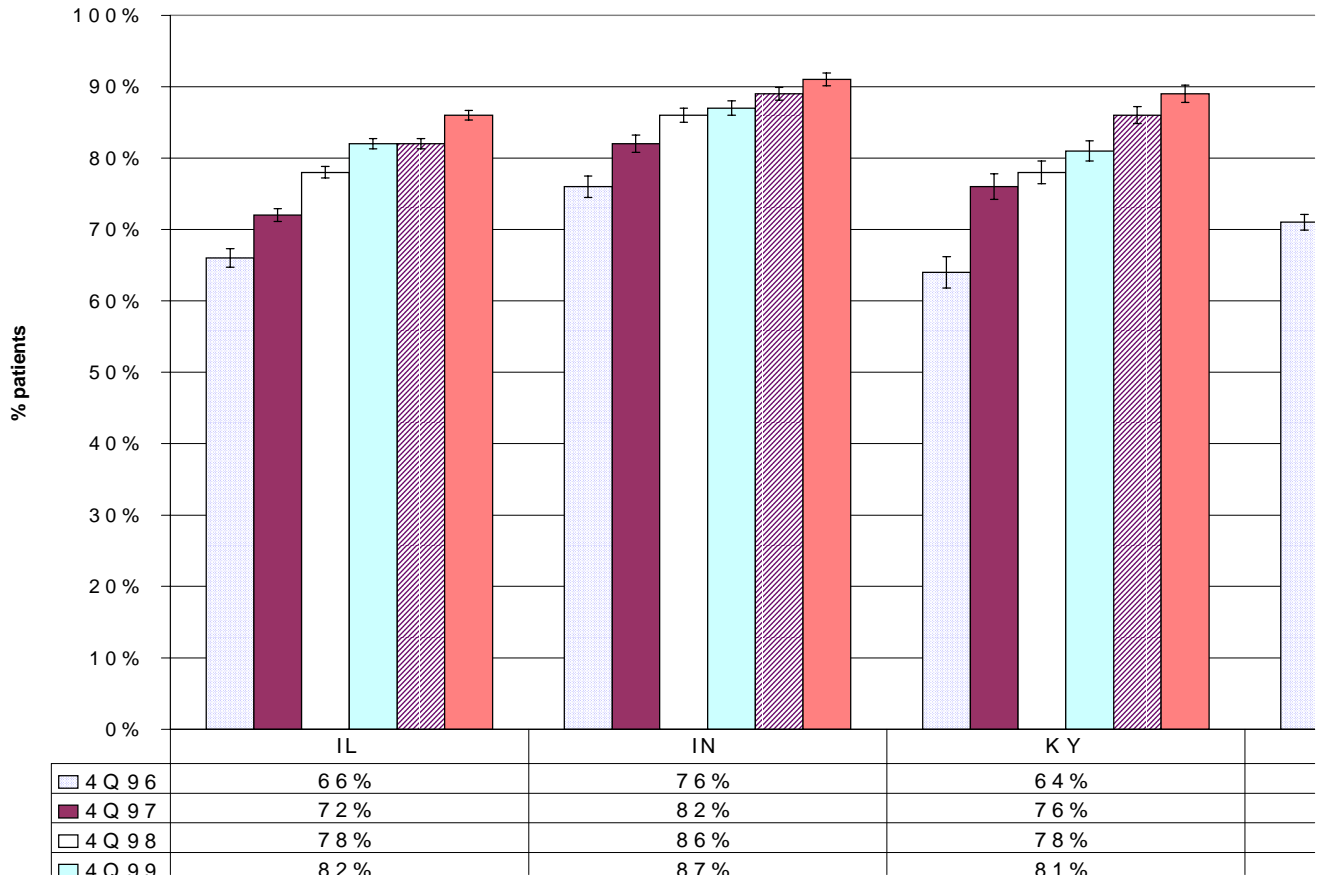
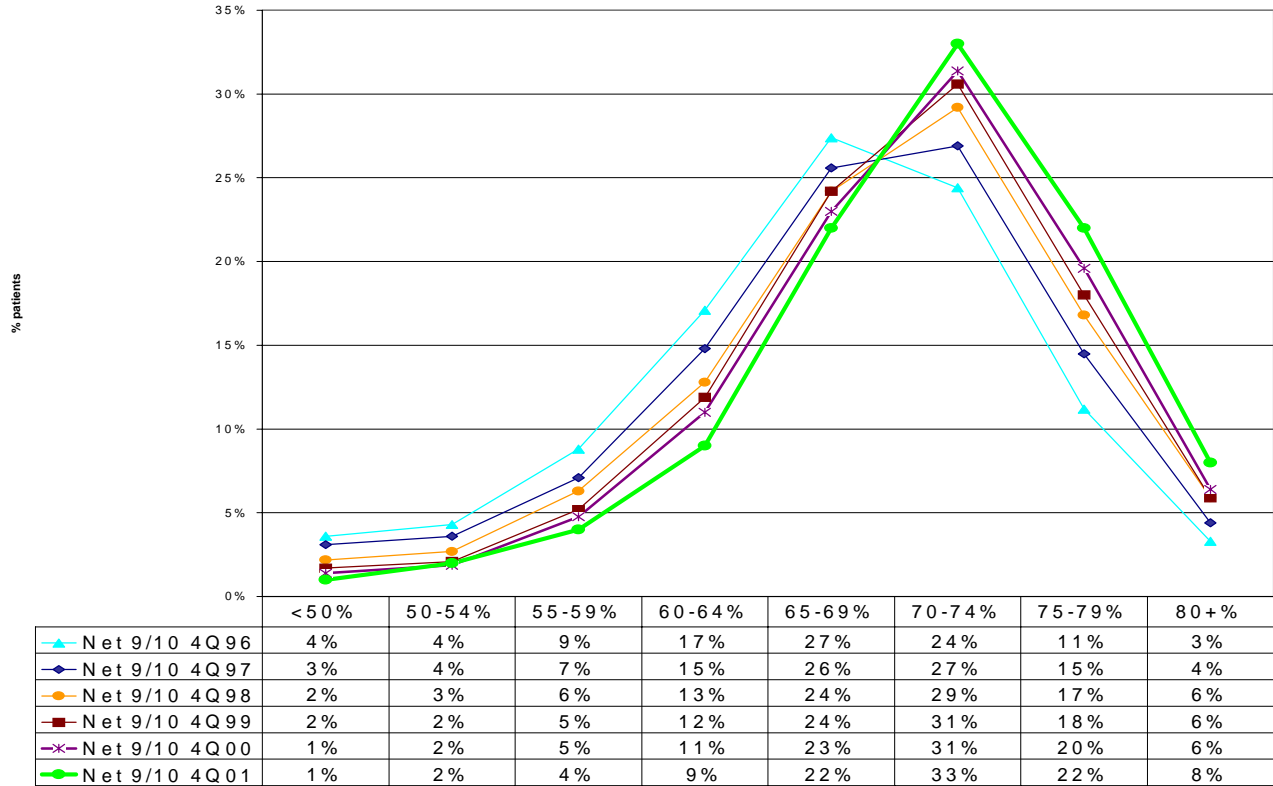


Table A.9. HD Adequacy Performance Measures by State & Networks 9/10.

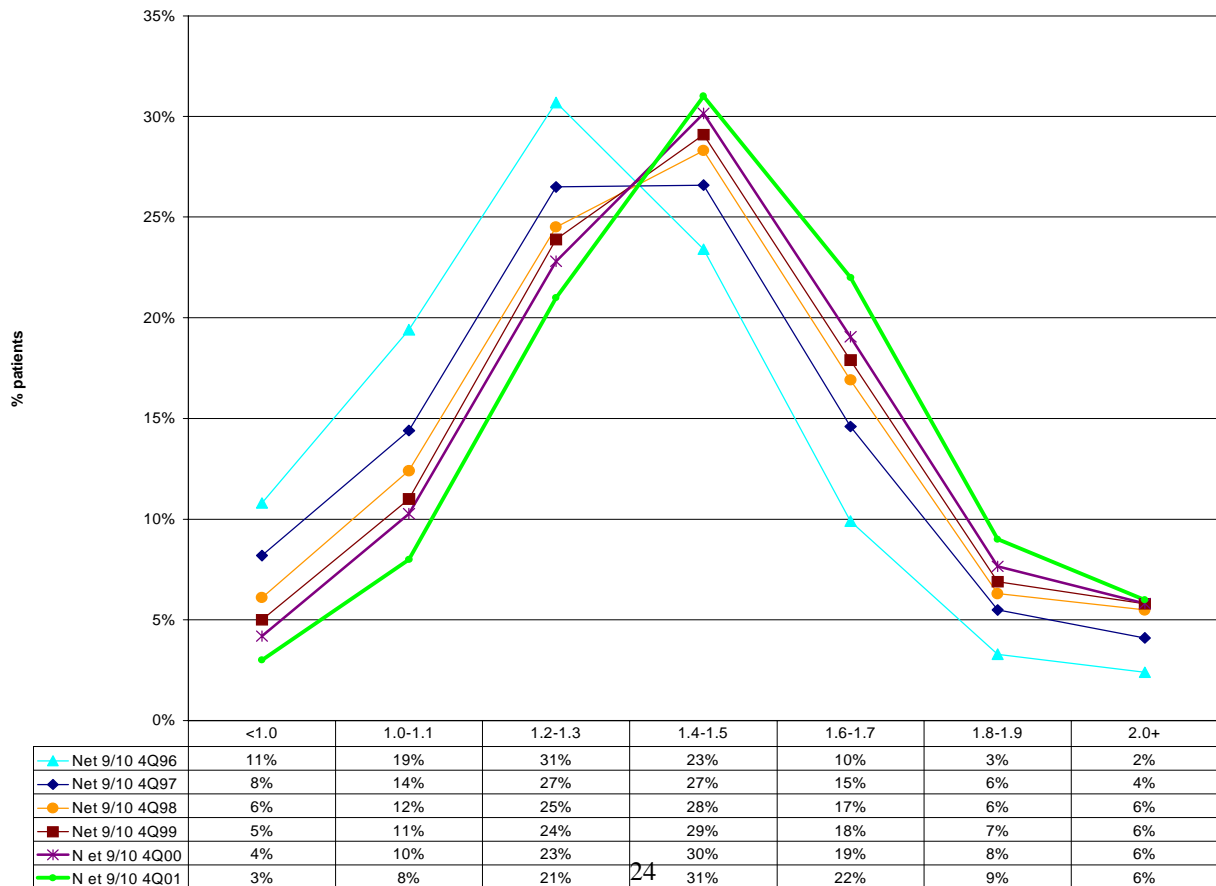
	Illinois		Indiana		Kentucky		Ohio		Net 9/10	
	avg	sd	avg	sd	avg	sd	avg	sd	avg	sd
URR 4Q96	66.3	9.2	68.6	7.9	65.9	9.0	67.3	7.8	67.1	8.5
URR 4Q97	67.1	8.9	69.4	7.9	68.2	9.4	69.0	7.7	68.2	8.5
URR 4Q98	68.5	8.5	70.7	7.3	68.4	8.1	69.8	7.4	69.3	7.9
URR 4Q99	69.4	7.8	70.7	7.6	70.0	7.8	70.1	7.2	69.8	7.6
URR 4Q00	69.6	7.8	71.5	7.2	70.1	7.1	70.6	6.9	70.3	7.4
<b>URR 4Q01</b>	<b>70.6</b>	<b>7.4</b>	<b>71.8</b>	<b>6.9</b>	<b>70.8</b>	<b>6.8</b>	<b>71.6</b>	<b>6.6</b>	<b>71.2</b>	<b>7.0</b>
Kt/V 4Q96	1.32	.35	1.39	.32	1.30	.32	1.34	.28	1.34	.32
Kt/V 4Q97	1.38	.37	1.47	.36	1.41	.35	1.44	.34	1.42	.36
Kt/V 4Q98	1.43	.36	1.52	.35	1.43	.35	1.48	.36	1.47	.36
Kt/V 4Q99	1.48	.38	1.54	.40	1.45	.35	1.50	.37	1.49	.38
Kt/V 4Q00	1.47	.36	1.56	.35	1.49	.32	1.52	.37	1.52	.37
<b>Kt/V 4Q01</b>	<b>1.50</b>	<b>.33</b>	<b>1.56</b>	<b>.34</b>	<b>1.51</b>	<b>.34</b>	<b>1.54</b>	<b>.33</b>	<b>1.52</b>	<b>.33</b>
Min 4Q96	209	31	209	36	209	32	209	29	209	32
Min 4Q97	213	28	215	31	212	30	213	29	214	29
Min 4Q98	217	28	222	30	214	29	216	28	217	29
Min 4Q99	218	27	221	35	216	30	216	28	218	30
Min 4Q00	221	27	227	30	218	30	218	29	221	29
<b>Min 4Q01</b>	<b>222</b>	<b>28</b>	<b>229</b>	<b>30</b>	<b>221</b>	<b>30</b>	<b>222</b>	<b>31</b>	<b>223</b>	<b>30</b>



2001 Annual Report **Figure A.10. Distribution of URR Values from 4th Quarter 1996 - 2001 for HD Patients in Networks 9/10**

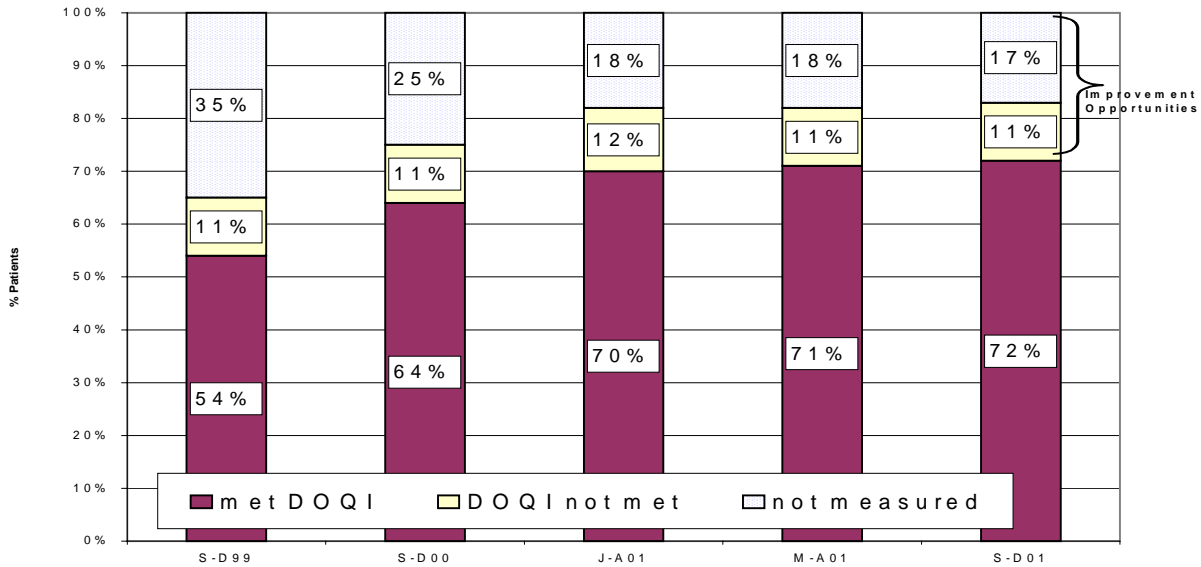


**Figure A.11. Distribution of Kt/V<sub>Daugirdis II</sub> Values from 4th Quarter 1996-2000 for HD Patients in Networks 9/10**

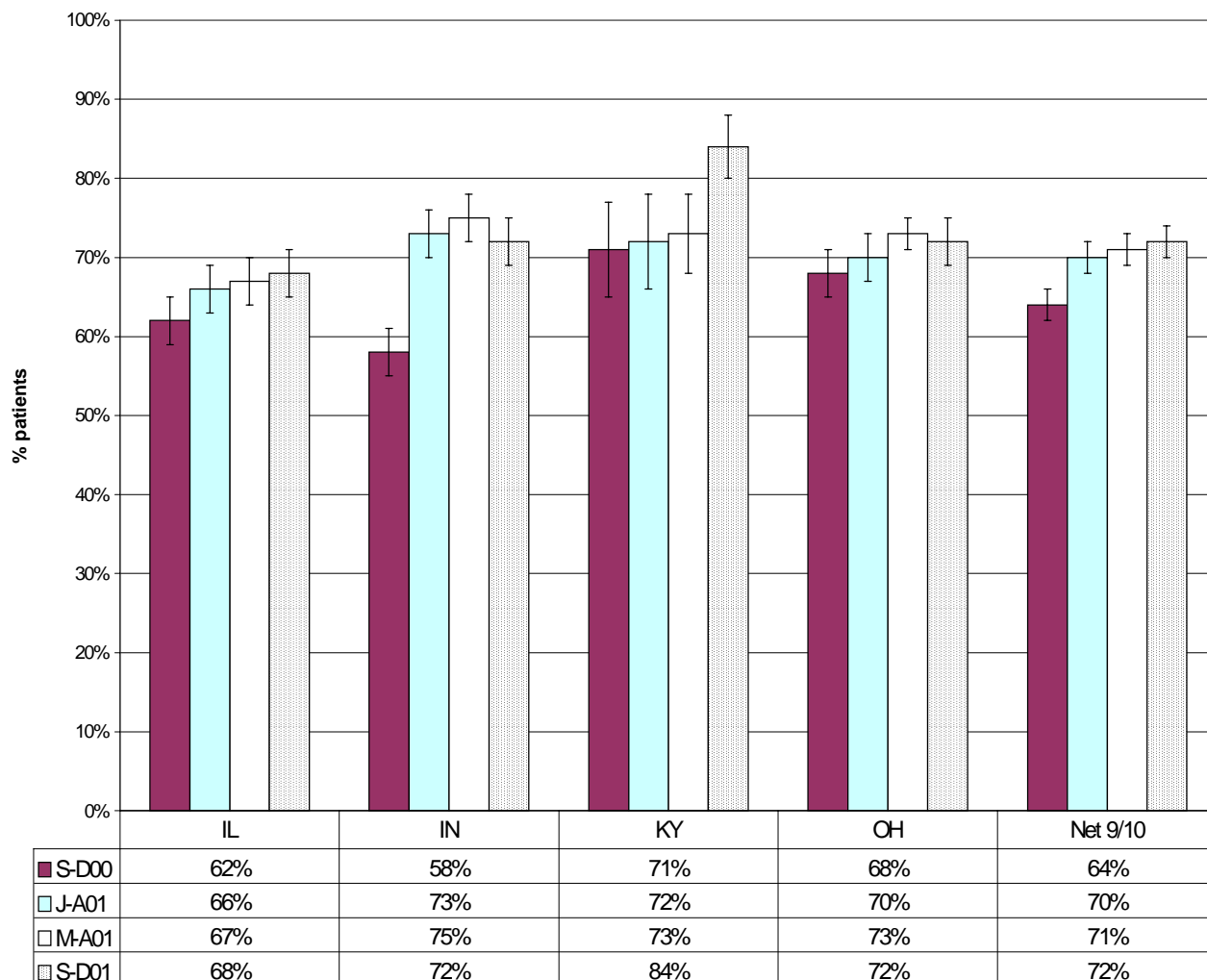


**2.d. Adequacy of Peritoneal Dialysis.** Three cycles of PD Clinical Performance Measures were collected in 2001, January–April 2001 (J-A01), May-August 2001 (M-A01), and September–December 2001 (S-D01). PD adequacy measures included the weekly creatinine clearance (CrCl) and weekly Kt/V. Facilities reported patient measurements in the collection time frames. The percentage of patients measured for adequacy improved from 75% to 83%. Figure D.12. shows the percentage of PD patients in Network 9/10 measured and meeting weekly CrCl or Kt/V DOQI™ guidelines from September – December 1999-2001. In the last reporting cycle of 2001, 28% of the PD population was either not measured or did not meet DOQI™ guidelines.

**Figure A.12. Percentage of PD Patients in Network 9/10 with Reported Weekly CrCl or Kt/V Measured & Meeting DOQI**



**Figure A.13. Percentage of PD Patients Measured with Reported Weekly CrCl or Kt/V meeting DOQI by State and Networks 9/10**

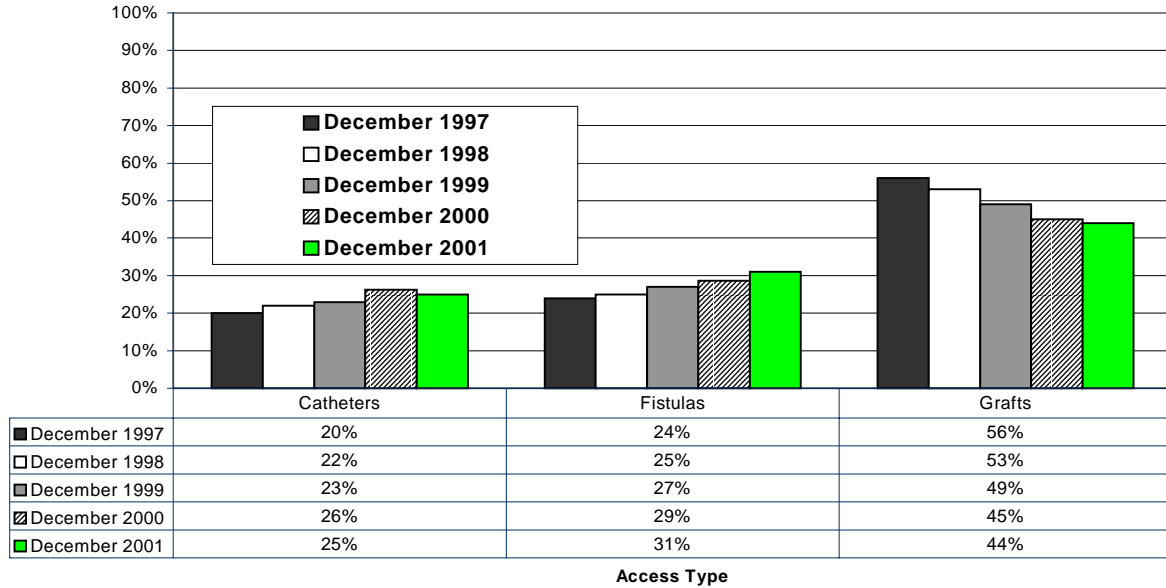


**2.e. Hemodialysis Vascular Access.** Figure A.14. shows the percentage of patients greater than 90 days ESRD with catheter, fistula and graft in Network 9/10 in December 1997-2001. Catheter and fistula rates have increased. Figure A.15. shows the reason for catheter in the same time frame. Information on reasons for catheter placement was collected in order to identify care process areas that could be targeted for improvement. There are five categories: (1) no vascular sites, (2) no fistula/graft created, (3) temporary interruption, (4) fistula/graft maturing, and (5) other reasons. One-third of the reasons for catheters was reported as “no fistula/graft created.”

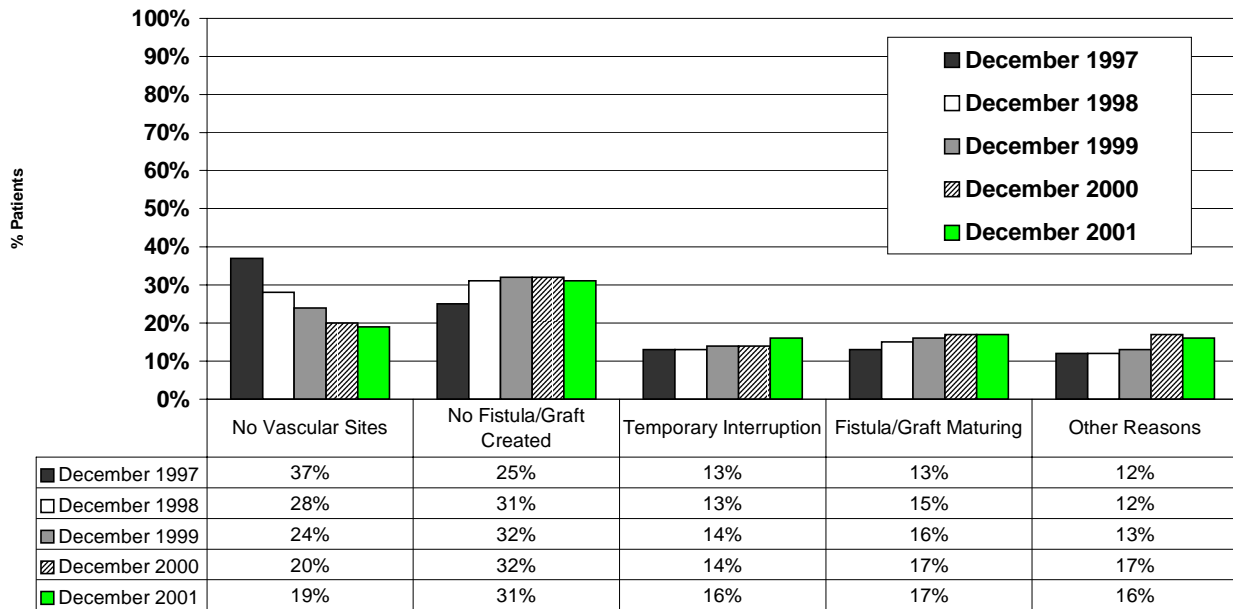
Table A.10. shows the number and percentage of facilities with standardized access ratios for December 1997-2001. The methodology adjusts for patient demographics, i.e., age, race, sex, height/weight, cause of ESRD, and number of years on dialysis. The standardized ratio methodology includes patients who had been on dialysis greater than 90 days. Facilities were included in the analysis if the number of total patients was 30 or greater.

The standardized ratios for catheters (SCR), fistula (SFR) and grafts (SGR) are analogous to the standardized mortality ratio (SMR) or the standardized hospitalization ratio (SHR). The ratio is the actual number of patients with a specific access divided by the expected number of patients with the specific access. The SCR, SFR, and SGR for a facility are compared to the Network 9/10 ratios.

**Figure A.14. Vascular Access Type in Patients(ESRD >90days) in Networks 9/10 for December 1997-2001**



**Figure A.15. Reasons for Catheter Use in Patients (ESRD > 90 days) in Network 9/10 for December 1997-2001**



**Table A.10. Number and percentage of facilities with standardized access scores statistically different than 1.0, December 1997 - 2001**

# Facilities with:	Baseline Dec 1997		Year 1 Dec 1998		Year 2 Dec 1999		Year 3 Dec 2000		Year 4 Dec 2001	
	#	%	#	%	#	%	#	%	#	%
SCR > 1.0*	32	15	28	12	36	18	64	25	77	31
SCR < 1.0*	38	18	24	10	30	15	12	5	21	8
SCR not different from 1.0	146	68	182	78	138	68	185	71	154	61
SFR > 1.0*	28	13	42	18	48	24	66	25	76	30
SFR < 1.0*	25	12	18	8	21	10	13	5	7	3
SFR not different from 1.0	163	75	174	74	135	66	182	70	169	67
SGR > 1.0*	18	8	8	3	6	3	2	1	1	0.4
SGR < 1.0*	23	11	29	12	49	24	74	28	84	33
SGR not different from 1.0	175	81	197	84	149	73	185	71	167	66
<b>Total</b>	<b>216</b>	<b>100</b>	<b>234</b>	<b>100</b>	<b>204</b>	<b>100</b>	<b>261</b>	<b>100</b>	<b>252</b>	<b>100</b>

\* Statistically different than 1.0. Facilities included if n ≥ 30 for reported December access. May not add to 100% due to rounding.

**2.f. Nutritional Status.** The serum albumin was measured as a nutritional outcome. 87% of the HD patients had an albumin measured with a bromocresol green (BCG) assay and 13% were reported with the a bromocresol purple (BCP) assay. 83% of the PD patients had an albumin measured with a BCG assay, and 17% with a BCP assay. An adjustment of + 0.3 was made to serum albumin measured using the BCP assay for comparisons.

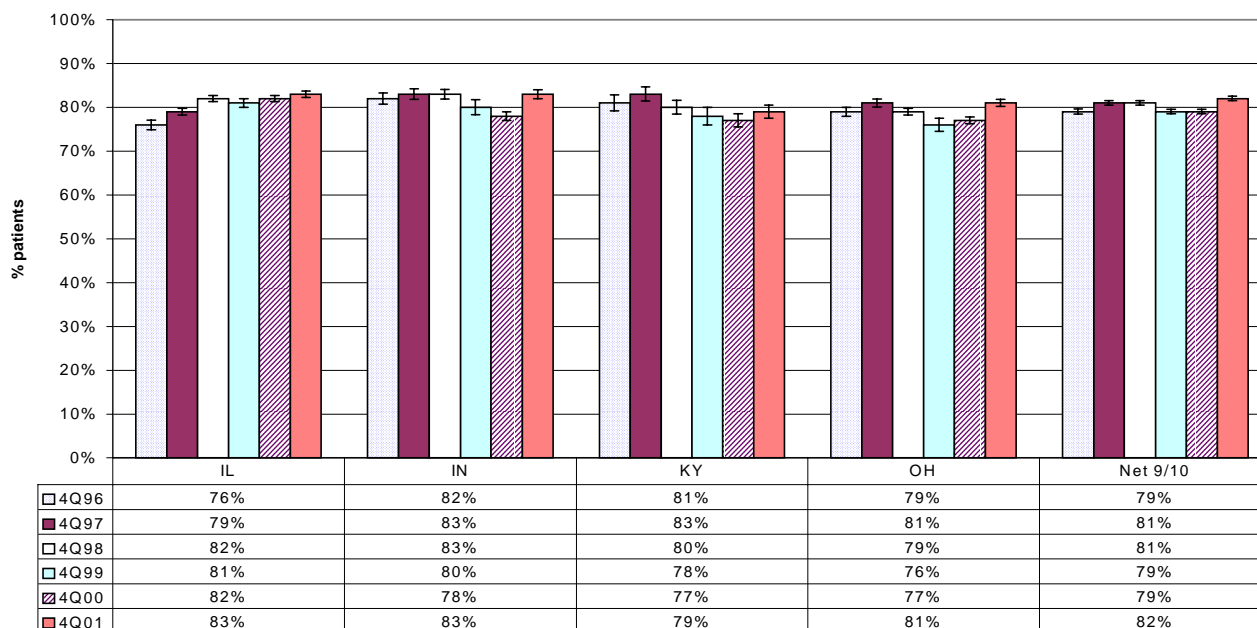
Hemodialysis - Albumin. Table A.11. outlines the average and standard deviation values by state, Network 9/10. The average albumin in the 4<sup>th</sup> quarter 2001 was 3.79 gm/dL, an increase from 3.73 gm/dL in the 4<sup>th</sup> quarter 2000. The percentage of patients with an average albumin  $\geq$  3.5 gm/dL increased from 79% to 82%. 38% of the patients had an average albumin  $\geq$  4.0 gm/dL, a 9% decrease from last year.

Figure A.16. compares the percentage patients with average albumin  $\geq$ 3.5 gm/dL by state, Network 9/10 from 4<sup>th</sup> quarter 1996-2001. Table D.12. shows the distribution of average albumin by state and Network 9/10 from 4<sup>th</sup> quarter 1996-2001.

**Table A.11. HD Average (avg) and Standard Deviation (sd) Values for Albumin by State & Networks 9&10.**

	Illinois		Indiana		Kentucky		Ohio		Network 9/10	
	avg	sd	avg	sd	avg	sd	avg	sd	avg	sd
Albumin 4Q96	3.67	.49	3.74	.40	3.71	.42	3.67	.44	3.69	.45
Albumin 4Q97	3.76	.46	3.82	.45	3.79	.50	3.78	.44	3.78	.46
Albumin 4Q98	3.78	.43	3.81	.42	3.78	.45	3.75	.44	3.77	.44
Albumin 4Q99	3.78	.43	3.79	.51	3.72	.44	3.70	.45	3.75	.46
Albumin 4Q00	3.78	.42	3.71	.50	3.69	.42	3.69	.43	3.73	.44
Albumin 4Q01	<b>3.82</b>	<b>.42</b>	<b>3.79</b>	<b>.41</b>	<b>3.74</b>	<b>.46</b>	<b>3.77</b>	<b>.44</b>	<b>3.79</b>	<b>.44</b>

**Figure A.16. Percentage of HD Patients with Average Albumin  $\geq$  3.5 gm/dl by State & Networks 9/10**



**Table A.12. Distribution of HD Average Albumin Values (gm/dl) by State & Networks 9/10.**

	< 2.0	2.0-2.4	2.5-2.9	3.0-3.4	3.5+
IL 4Q96	0.3%	1.0%	4.2%	18.6%	76.0%
IL 4Q97	0.2%	0.8%	3.6%	16.9%	78.7%
IL 4Q98	0.1%	0.6%	3.3%	14.0%	82.0%
IL 4Q99	0.1%	0.6%	3.3%	15.0%	80.7% (35.7)*
IL 4Q00	0.2%	0.8%	3.3%	13.7%	82.1% (36.1)*
<b>IL 4Q01</b>	<b>0.2%</b>	<b>0.7%</b>	<b>3.0%</b>	<b>12.8%</b>	<b>83.3% (42.1)*</b>
IN 4Q96	0.1%	0.6%	2.4%	15.3%	81.7%
IN 4Q97	0.3%	0.5%	2.5%	13.7%	83.1%
IN 4Q98	0.1%	0.6%	2.6%	13.9%	82.8%
IN 4Q99	0.1%	0.9%	3.3%	15.7%	79.7% (35.2)*
IN 4Q00	0.1%	0.6%	3.9%	17.5%	77.9% (24.9)*
<b>IN 4Q01</b>	<b>0.2%</b>	<b>0.5%</b>	<b>2.8%</b>	<b>14.0%</b>	<b>82.5% (36.3)*</b>
KY 4Q96	0.2%	0.3%	3.7%	14.9%	80.8%
KY 4Q97	0.1%	0.7%	2.9%	13.6%	82.6%
KY 4Q98	0.2%	0.8%	3.5%	15.9%	79.5%
KY 4Q99	0.2%	0.8%	4.0%	16.2%	78.2% (30.4)*
KY 4Q00	0.2%	0.8%	4.6%	17.3%	77.1% (26.0)*
<b>KY 4Q01</b>	<b>0.4%</b>	<b>0.9%</b>	<b>4.0%</b>	<b>15.8%</b>	<b>78.9% (33.6)*</b>
OH 4Q96	0.2%	0.7%	3.5%	16.7%	78.8%
OH 4Q97	0.1%	0.8%	3.1%	14.8%	81.0%
OH 4Q98	0.2%	0.8%	4.0%	16.2%	78.8%
OH 4Q99	0.2%	1.0%	4.9%	17.8%	75.8% (30.0)*
OH 4Q00	0.4%	1.1%	4.3%	17.6%	76.7% (27.3)*
<b>OH 4Q01</b>	<b>0.2%</b>	<b>0.9%</b>	<b>3.5%</b>	<b>14.5%</b>	<b>80.8% (35.7)*</b>
Net 9/10 4Q96	0.2%	0.7%	3.6%	16.9%	78.7%
Net 9/10 4Q97	0.2%	0.7%	3.2%	15.3%	80.6%
Net 9/10 4Q98	0.1%	0.7%	3.4%	14.9%	80.8%
Net 9/10 4Q99	0.2%	0.8%	4.0%	16.2%	78.6% (33.1)*
Net 9/10 4Q00	0.2%	0.9%	3.9%	16.0%	79.0% (30.2)*
<b>Net 9/10 4Q01</b>	<b>0.2%</b>	<b>0.8%</b>	<b>3.2%</b>	<b>13.9%</b>	<b>81.8% (38)*</b>

\*The percentage of patients with average albumins  $\geq 4.0$  gm/dL are noted in parentheses for 4Q99-4Q01 only.

Peritoneal Dialysis - Albumin. The Network 9/10 average albumin for the September –December 2001 reporting cycles was 3.57 gm/dL. Table A.13. shows the percentage of patients in Networks 9/10 with an average albumin  $\geq 3.5$  gm/dl was 61%.

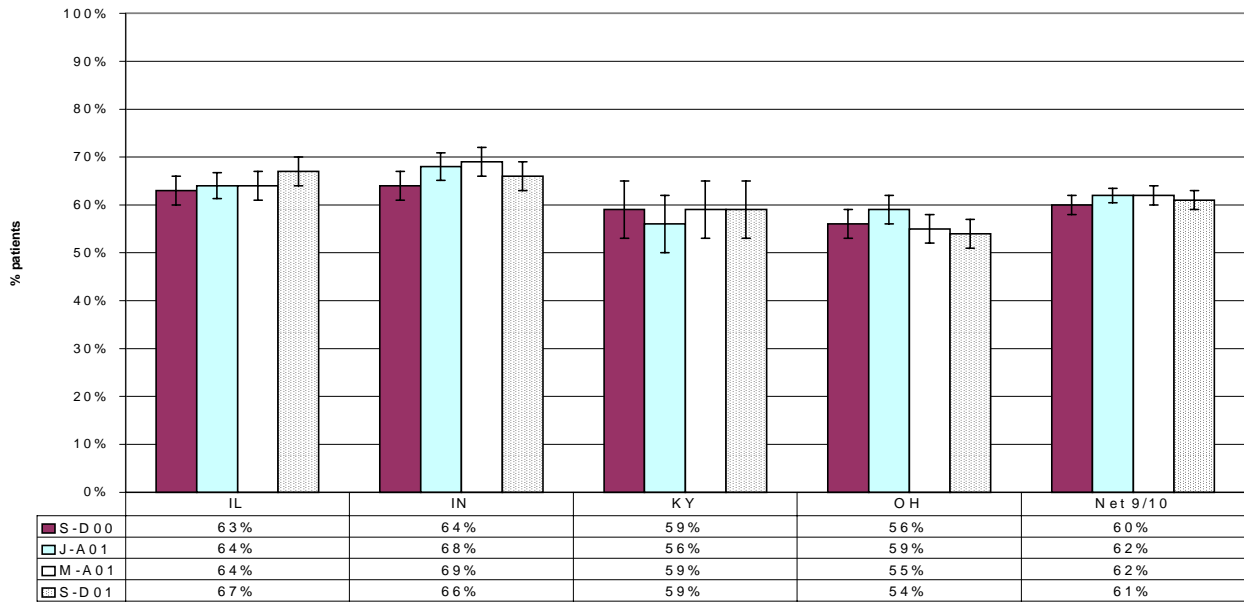
Figure A.17. compares the percentage of patients with an average albumin  $\geq 3.5$  gm/dl by state and Networks 9/10 from September –December 1999 - 2001 reporting cycles.

Table A.14. shows the distribution of average albumin values by state and Network 9/10.

**Table A.13. PD Average (avg) and Standard Deviation (sd) Values for Albumin by State & Network 9/10.**

	Illinois		Indiana		Kentucky		Ohio		Network 9&10	
	avg	sd	avg	sd	avg	sd	avg	sd	avg	sd
Albumin S-D99	3.60	.52	3.61	.50	3.59	.51	3.48	.54	3.55	.53
Albumin S-D00	3.55	.48	3.59	.47	3.53	.53	3.49	.54	3.53	.51
Albumin J-A01	3.57	.51	3.62	.48	3.50	.56	3.51	.52	3.55	.52
Albumin M-A01	3.58	.50	3.64	.47	3.54	.51	3.48	.50	3.55	.50
<b>Albumin S-D01</b>	<b>3.61</b>	<b>.50</b>	<b>3.64</b>	<b>.48</b>	<b>3.54</b>	<b>.55</b>	<b>3.50</b>	<b>.50</b>	<b>3.57</b>	<b>.50</b>

**Figure A.17. Percent PD Patients with Average Albumin  $\geq$  3.5 gm/dL by State & Networks 9/10**





**Table A.14. Distribution of PD Average Albumin Values by State & Networks 9&10.**

	< 2.0	2.0-2.4	2.5-2.9	3.0-3.4	3.5+
IL S-D99	0.5%	1.7%	7.9%	24.8%	64.8% (25.0)*
IL S-D00	0.2%	2.1%	9.1%	25.2%	63.2% (19.4)*
IL J-A01	0.5%	1.5%	8.7%	25.7%	63.7% (21.5)*
IL M-A01	0.4%	2.2%	7.8%	25.6%	64.1% (22.2)*
IL S-D01	0.1%	1.8%	9.3%	22.0%	66.8% (25.3)*
IN S-D99	0.1%	1.6%	7.1%	25.9%	65.0% (23.3)*
IN S-D00	0.4%	1.0%	7.4%	27.5%	63.7% (21.3)*
IN J-A01	0.1%	2.0%	7.3%	22.9%	67.7% (24.1)*
IN M-A01	0.3%	0.9%	7.4%	22.2%	69.2% (26.5)*
IN S-D01	0%	1.3%	6.7%	25.7%	66.4% (25.7)*
KY S-D99	1.2%	1.2%	6.3%	25.6%	65.4% (23.9)*
KY S-D00	0%	2.8%	10.1%	28.6%	58.5% (20.6)*
KY J-A01	0.4%	4.8%	10.3%	29.0%	55.6% (22.2)*
KY M-A01	0%	3.2%	8.2%	29.3%	59.3% (20.4)*
KY S-D01	1.1%	2.8%	7.8%	29.8%	58.5% (21.6)*
OH S-D99	0.5%	2.9%	11.8%	34.7%	53.0% (18.3)*
OH S-D00	1.0%	2.8%	10.5%	29.8%	55.8% (17.4)*
OH J-A01	1.0%	2.9%	8.6%	28.3%	59.2% (17.3)*
OH M-A01	0.7%	2.3%	9.8%	31.9%	55.3% (16.9)*
OH S-D01	0.4%	2.2%	9.9%	32.9%	54.6% (16.7)*
Net 9/10 D-S99	0.5%	2.1%	9.2%	27.8%	60.1% (21.8)*
Net 9/10 S-D00	0.6%	2.2%	9.4%	27.9%	60.0% (19.1)*
Net 9/10 J-A01	0.6%	2.4%	8.5%	26.3%	62.2% (20.5)*
Net 9/10 M-A01	0.4%	2.0%	8.5%	27.5%	61.5% (21.0)*
Net 9/10 S-D01	0.3%	1.9%	8.8%	27.6%	61.4% (21.8)*

\*The percentage of the total PD patients with average albumin  $\geq$  4.0 gm/dL is noted in parentheses.

## B. Network 9/10 CPM Interventions.

The goals of the CPM interventions are to:

- (1) increase the knowledge of the CPM project to Networks 9/10 ESRD providers,
- (2) standardize the data collection process
- (3) analyze the applicability of the CPM on the facility and network levels, and,
- (4) implement programs and projects that can be repeated on a facility and Network-wide level.

Interventions included facility and physician data collection, feedback reports, and regional education workshops. The focus was on DOQI™ guidelines, physician-patient outcome data, and facility plans for improvement. Corporate and practice feedback reports were distributed. Feedback reports were specifically targeted to physicians, medical directors, administrators and nurse managers. Multi-color reports displayed data in tables and charts. Table B.1 outlines the number of reports distributed.

**Table B.1. Network 9/10 CPM Feedback Reports to Physicians and Dialysis Programs distributed in 2000 for each collection cycle.**

<b>Review Cycle:</b>	<b># Physicians</b>	<b># Facilities</b>
HD 4Q00	577	388
HD April 2001	559	384
HD July 2001	565	393
PD J-A01	400	158
PD M-A01	411	163

The following describes the current level and the change in percentage from the 4Q00 to the 4Q01 of HD Network 9/10 patients meeting the recommended DOQI™ Guidelines for care:

		<u>change</u>
➤ Hemoglobin between 11-12 gm/dL	34%	- 1%
➤ Hemoglobin > 12 gm/dL	42%	+ 4%
➤ Epo dose between 120-180 u/kg/wk	16%	- 1%
➤ TSAT between 20-50%	72%	+ 2%
➤ Ferritin between 100-800 ng/ml	60%	-7%
➤ Albumin ≥ 4.0 mg/dl	38%	+ 8
➤ URR ≥ 65%	85%	+ 4%
➤ Kt/V Daugirdas II ≥ 1.2	89%	+ 3%
➤ % Catheters (pts > 90 days ESRD)	25%	-1%
➤ % Fistula (pts > 90 days ESRD)	31%	+ 2%

The following describes the current level and the change in percentage from S-D00 to S-D01 of PD Network 9/10 patients meeting the recommended DOQI™ Guidelines for care:

		<u>change</u>
➤ Hemoglobin between 11-12 gm/dL	30%	no change
➤ Albumin ≥ 4.0 gm/dL	22%	+ 3%
➤ Weekly CrCl or Kt/V	84%	+ 7%

In 2001, Network 9/10 Clinical Performance Goals 2000-2003 for adequacy of dialysis, anemia management, and vascular access were revised, approved and published.

### **Adequacy of Dialysis Goals 2000-2003**

#### **Hemodialysis**

- All patients measured for adequacy every month
- ≥ 85% of patient population achieve URR ≥65%
- ≥ 85% of patient population achieve Kt/V<sub>Daugirdas II</sub> ≥1.2

#### **Peritoneal Dialysis**

- All patients measured for adequacy every 4 months
- CAPD ≥ 85% of patient population achieve weekly Creatinine Clearance ≥ 60 L/bsa or weekly Kt/V ≥2.0
- CCPD ≥ 85% of patient population achieve weekly Creatinine Clearance ≥ 63 L/bsa or weekly Kt/V ≥2.1

### **Anemia Management Goals 2000-2003**

#### **Hemodialysis & Peritoneal Dialysis**

- All patients measured every month of PD clinic visit
- ≥ 85% of patient population achieve Hemoglobin ≥11 gm/dL

#### **Hemodialysis Vascular Access Goals 2000-2003**

- ≥ 40% prevalent patient population Fistula rate<sup>DOQI™</sup>
- ≤ 10% prevalent patient population Catheter rate<sup>DOQI™</sup>

2002 Interventions. Interventions will continue to include facility, physician, and corporate data collection, feedback reports, and regional education workshops. The focus will be on DOQI™ guidelines, physician-patient, corporate-facility - patient outcome data, and facility plans for improvement. Facilities will be targeted for specific interventions based on facility outcomes.

### **C. CMS National CPM Project.**

All 18 Networks participated in the national Clinical Performance Measures (CPM) project. Random samples of HD and PD patients were drawn. The HD sample had sufficient size to be representative of each Network. The PD sample size was used for national rates only. Table C.1. shows the comparison of Network 9 and Network 10 rankings for clinical outcomes to the other 16 Networks in the nation for the past four years.

Table C.2. shows the Network 9 and Network 10 random samples for the CMS National CPM Project. HD facility survey forms were collected from a national random sample, 16 from Network 9 and 7 from Network 10. The facility survey collected information on facility policies and procedures concerning post BUN sampling and dialyzer total cell volume measurement. Data validation of the national sample was conducted on 5% of the random sample. Network 9/10 staff abstracted patient charts for this process.

**Table C.1. Network 9/10 National Ranking for 4Q96-4Q00 Data for Adult (≥18 years) In-center Hemodialysis Patients. Source: 2000 Annual Report, ESRD Core Indicators Project, HCFA, December 1997, 1998, 1999, 2000 & 2001 Annual Report, ESRD Core Indicators Project, HCFA, December 2001.**

Clinical Characteristic	Network 9					Network 10				
	4Q96	4Q97	4Q98	4Q99	4Q00	4Q96	4Q97	4Q98	4Q99	4Q00
Percentage Patients with Average:										
URR ≥ 65%	10	9	8	4	<b>10</b>	18	17	17	16	<b>15</b>
Kt/V ≥ 1.2	12	7	9	8	<b>8</b>	17	17	18	15	<b>11</b>
Percentage Prevalent Patients:										
AV Fistula			9	10	<b>10</b>			12	13	<b>13</b>
Catheter (low rate)			13	11	<b>18</b>			16	15	<b>8</b>
Albumin ≥3.5 gm/dL	14	2	12	10	<b>17</b>	17	17	12	10	<b>1</b>
Hgb ≥ 11gm/dL	--	--	10	5	<b>12</b>	--	--	16	15	<b>1</b>
Ferritin ≥100 ng/mL	10	13	17	8	<b>4</b>	13	15	16	16	<b>1</b>
TSAT ≥ 20%	14	17	18	12	<b>15</b>	6	1	15	4	<b>2</b>
% patients receiving EPO with:										
HGB value 11-12 gm/dL	--	6	9	--	<b>10</b>	--	13	16	--	<b>12</b>
HGB value 11- 12.99 gm/dL	--	--	--	7	<b>15</b>	--	--	--	17	<b>11</b>
% patients prescribed IV Iron	4	1	1	1	<b>1</b>	13	4	6	6	<b>3</b>
% patients prescribed EPO Subcutaneous	--	1	1	1	<b>1</b>	--	5	6	6	<b>4</b>

**Table C.2. National Clinical Performance Measures Project Network Random Samples, 4Q00 – HD Oct00-Mar01 – PD (Adult ≥ 18 years)**

Pt. Characteristic	Net 9 HD		Net 10 HD		U.S. HD*		Net 9 PD		Net 10 PD		U.S. PD*	
	#	%	#	%	#	%	#	%	#	%	#	%
Total	504	100	495	100	8416	100	130	100	67	100	1342	100
Male	276	55	247	50	4376	52	62	48	35	52	675	50
Female	228	45	248	50	4032	48	68	52	32	48	666	50
Race												
AI/AN	1	.2	0	0	144	2	0	0	0	0	16	1
AS/PI	6	1	20	4	328	4	1	1	4	6	83	6
Black	177	35	214	43	3103	37	40	31	20	30	368	27
White	314	62	244	49	4403	52	85	65	41	61	808	60
Oth/Unk	6	1	17	3	438	5	4	3	2	3	67	5
Ethnicity												
Hispanic	10	2	46	9	1086	13	2	2	7	10	143	11
Non-Hispanic	451	89	381	77	6926	82	91	70	46	69	1148	86
Oth/Unk	43	9	68	14	404	5	37	28	14	21	51	4
Age												
18 – 49	120	24	105	21	1990	24	50	38	23	34	528	39
50 – 59	89	18	106	21	1655	20	25	19	18	27	305	23
60 – 64	53	11	44	9	927	11	16	12	8	12	161	12
65 – 69	61	12	57	12	1031	12	12	9	3	4	130	10
70 – 79	135	27	121	24	1976	24	25	19	13	19	177	13
80+	46	9	62	13	837	10	2	2	2	3	41	3
Primary Diag.												
DM	197	39	181	37	3496	42	52	40	22	33	480	36
HTN	111	22	163	33	2147	26	20	15	11	16	268	20
GN	74	15	62	13	971	12	29	22	20	30	254	19
Other/Unk	122	24	89	18	1802	21	29	22	14	21	340	25
Duration - years												
< 0.5	79	15	54	11	997	12	19	15	10	15	299	22
0.5 – 0.9	72	14	62	13	1152	14	16	12	11	16	165	12
1.0– 1.9	107	21	97	20	1719	20	32	25	14	21	278	21
2.0+	247	49	278	57	4441	53	63	48	32	48	587	44

\*HCFA 2001 Annual Report, ESRD Core Indicators Project, December 2001.

May not add up to 100% due to rounding or missing data elements.

## D. Network Special Projects/Studies

### 1. Quality Improvement Projects.

The development of Quality Improvement Projects (QIP) is mandated in the Network 9/10 contract with CMS. The QIPs are developed and directed by the Medical Review Board (MRB).

1.a. Network 9 Hemodialysis Adequacy of Dialysis QIP. This project concluded December 2001 and the final report is pending CMS approval as of this publication date.

**Background:** At year-end 1999, ESRD Network 9 contained 8% of the national in-center hemodialysis (HD) population; the Network area includes the states of Indiana, Kentucky and Ohio. Network 9 Clinical Performance Measures (CPM) from the 4<sup>th</sup> quarter of 1999 showed 80% of the in-center HD

patients had an average urea reduction rate (URR)  $\geq 65\%$ . Data trended from 1996 through 1999 showed the rate of improvement in URR had been declining.

**Primary objectives:** This quality improvement project addressed the topic of improving hemodialysis adequacy, as prescribed by the Centers for Medicare and Medicaid Services (CMS). The primary objective was that 85% or more of adult, in-center HD patients in Network 9 would meet or exceed the URR target of  $\geq 65\%$ . A secondary objective was to measure and improve components of adequacy (blood flow rates, treatment time, use of dialyzer with Kuf  $\geq 20$ , and decrease the use of catheters as vascular access). The third objective was to evaluate the facility interventions and the effect on URR.

**Methods:** A rank order was calculated of Network 9 facilities for the 4<sup>th</sup> quarter 1999 to select the intervention group. This ordering was accomplished by using the percentage of patients with URR  $\geq 65\%$  to select the intervention group. The 46 facilities in the lowest quartile were designated as the intervention group. Intervention facilities attended educational meetings, received a "Quality Improvement Kit" of educational materials, were required to develop individualized intervention action plans for improving adequacy, received specific facility "Needs Assessment Report," and received individualized communications through Medical Review Board letters and telephone conference calls during the course of the QIP. The rate of progress was measured for the percentage of patients with a URR  $\geq 65\%$  during the year 2001. As a follow-up, URR measurements were compared for the 4<sup>th</sup> quarter 1999, 2000 and 2001.

**Main findings:** In the 4<sup>th</sup> quarter of 2001, the overall Network 9 rate of URR  $\geq 65$  was 85% ( $\pm 6.9\%$ ). The Network goal of  $\geq 85\%$  of facilities with a URR  $\geq 65\%$  was achieved with a mean URR  $\geq 65\%$  of 85.2 ( $\pm 6.7\%$ ) in the non-intervention facilities but fell slightly short in the intervention facilities with a mean URR  $\geq 65\%$  of 84% ( $\pm 7.93$ ).

The intervention facilities met project goals for improving treatment time and use of dialyzers with Kuf  $\geq 20$ .

A secondary analysis of the data using analysis of variance with repeated measures found a significant effect of years ( $p < 0.001$ ), intervention ( $p < 0.001$ ) and the interaction years\* intervention ( $p < 0.001$ ). The rate of increase in URR was greater in the intervention group.

An analysis was performed of the interventions used at the facility level to increase the rate of URR. These interventions included policy and procedure, prescription, personnel, patient, physical equipment, and vascular access. Once again there was a significant effect of year on the reported URR ( $p < 0.001$ ). There were no significant between-subject effects. There was a significant interaction between year and those facilities that targeted vascular access ( $p = 0.041$ ) but not in the desired direction.

**Principle conclusion:** The selection of the lowest performing facilities for this project was an efficient method to improve the overall Network adequacy rate. Facility interventions that targeted vascular access were not beneficial to improving adequacy rates.

1.b. Network 10 Hemodialysis Adequacy of Dialysis QIP. This project concluded December 2001 and the final report is pending CMS approval as of this publication date.

**Background:** At year-end of 1999, ESRD Network 10 contained 5% of the national in-center hemodialysis (HD) population; the Network area includes the state of Illinois. Network 10 Clinical Performance Measures (CPM) from the 4<sup>th</sup> quarter of 1999 showed 77% of the in-center HD patients had an average urea reduction rate,  $URR \geq 65\%$ . Data trended from 1996 through 1999 showed an average 5% rate of improvement in URR.

**Primary objectives:** This quality improvement project addressed the topic of improving hemodialysis adequacy, as prescribed by the Centers for Medicare and Medicaid Services (CMS). The primary objective was that 85% or more of adult, in-center HD patients in Network 9 would meet or exceed the URR target of  $\geq 65\%$ . A secondary objective was to measure and improve components of adequacy (blood flow rates, treatment time, use of dialyzer with  $Kuf \geq 20$ , and decrease the use of catheters as vascular access). The third objective was to evaluate the facility interventions and the effect on URR.


**Methods:** A rank order was calculated of Network 10 facilities for the 4<sup>th</sup> quarter 1999 to select the intervention group. This ordering was accomplished by using the percentage of patients with  $URR \geq 65\%$  to select the intervention group. The 27 facilities in the lowest quartile were designated as the intervention group. Intervention facilities attended educational meetings, received a "Quality Improvement Kit" of educational materials, were required to develop individualized intervention action plans for improving adequacy, received specific facility "Needs Assessment Report," and received individualized communications through Medical Review Board letters and telephone conference calls during the course of the QIP. The rate of progress was measured for the percentage of patients with a  $URR \geq 65\%$  during the year 2001. As a follow-up, URR measurements were compared for the 4<sup>th</sup> quarter 1999, 2000 and 2001.

**Main findings:** In the 4<sup>th</sup> quarter of 2001, the overall Network 10 rate was  $82.0 \pm 8.9\%$ . The Network goal of  $\geq 80\%$  of facilities with a  $URR \geq 65$  was achieved with a mean  $URR \geq 65\%$  of  $83.4 \pm 7.7\%$  in the non-intervention facilities but not achieved in the intervention facilities with only a mean  $URR \geq 65\%$  of  $77.9 \pm 10.9$ . The intervention facilities met project goals for improving blood flow rate, treatment time, and use of dialyzers with  $Kuf \geq 20$ .

A secondary analysis of the data using analysis of variance with repeated measures found a significant effect of years ( $p < 0.001$ ), intervention ( $p < 0.001$ ) and the interaction years\* intervention ( $p < 0.001$ ). The rate of increase in URR was greater in the intervention group. An analysis was performed of the interventions used at the facility level to increase the rate of URR. The between subject effects were policy and procedure, prescription, personnel, patient, physical equipment, and vascular access and all were entered into the model. There was a significant effect of year on the reported URR ( $p < 0.001$ ). There were no significant between-subject effects. Significant interactions in the between-subject effect and year were found for physical equipment ( $p = 0.009$ ) and policy and procedure ( $p = 0.012$ ). ) where facilities that targeted these areas had greater increases in URR. The effect for facilities that targeted vascular access ( $p = 0.080$ ) was a decline in URR. URR increased greater in the intervention group.

**Principle conclusions:** The selection of the lowest performing facilities for this project was an efficient method to improve the overall Network adequacy rate. Facility interventions that targeted physical equipment and policy and procedure would be beneficial to improving adequacy rates.

The following “Needs Assessment Report” displays the Network 9/10 aggregate data from April – December 2001. This “Needs Assessment report” is based on the QIP facility needs assessment report designed to identify and target adequacy processes for improvement. The report’s last column is a comparison to the top 20% facilities in December 2001 based on URR rates. The categories are (1) % patients with URR ≥ 65%, (2) % patients with  $Kt/V_{\text{Daugirdas II}} \geq 1.2$ , (3) average treatment time, (4) minutes of treatment time per kilogram of body weight, (6) frequency table of treatment time distribution, (7) frequency table of % patients with shortened treatment time, (8) average blood flow @ 1 hour, (9) frequency table of average blood flow distribution, (10) average dialysate flow @ 1 hour, (11) % patients with HD catheter, and (12) % patients using dialyzers with  $K_{\text{uf}} \geq 20$  dialyzers. The top 20% facilities averaged higher treatment times and blood flow rates in comparison to the Network 9/10 aggregate. Facilities receive this feedback report with their CPM reports.

		Needs Assessment Report					Average Top 20% Facility Rates December 2001
		Clinical Performance Measures In-Center Hemodialysis Patients Network 9/10 Period: April 2001 - December 2001					
	April 2001	July 2001	October 2001	November 2001	December 2001		
% Pts URR >= 65%	82%	82%	83%	83%	84%	94%	
% Pts $Kt/V \geq 1.2$	85%	86%	87%	87%	87%	98%	
Average Actual Treatment Time (hours)	3.70	3.72	3.72	3.73	3.73	3.77	
Minutes of treatment time per kg of body weight	3.1	3.4	3.1	3.1	3.1	3.1	
Actual Treatment Time % Pts Breakdown							
<= 3.0 hours	14%	14%	13%	13%	13%	10%	
3.1 - 3.5 hours	27%	27%	27%	27%	27%	28%	
3.6 - 4.0 hours	42%	42%	42%	42%	42%	42%	
> 4.0 hours	17%	17%	18%	18%	18%	20%	
Shortened Treatments % Pts Breakdown Shortened Time							
<= 15 minutes			8%	8%	7%	5%	
16 - 30 minutes			4%	3%	3%	1%	
> 30 minutes			4%	3%	3%	2%	
Average Blood Flow @ 1 hour	389	390	396	396	396	403	
Blood Flow % Pts Breakdown							
<= 300 ml/min	17%	17%	15%	15%	14%	13%	
301 - 350 ml/min	17%	17%	16%	17%	17%	17%	
351 - 400 ml/min	31%	32%	32%	31%	31%	29%	
401 - 450 ml/min	21%	20%	22%	21%	22%	23%	
> 450 ml/min	14%	13%	16%	16%	16%	18%	
Average Dialysate Flow @ 1 hour			659	663	667	690	
% Pts with HD Catheter	29%	29%	29%	29%	29%	30%	
% Pts with Hi-Flux Dialyzers ( $K_{\text{uf}} \geq 20$ )	61%	63%	69%	70%	70%	67%	

The three major barriers to adequate hemodialysis are underprescription, catheter use, and shortening of treatment time. This table summarizes prescription, catheter, and shortening data for your facility. Also included are data from the top 20% of the facilities in the Network based on  $Kt/V$  outcomes. For additional information, look at American Journal of Kidney Diseases, 1998;31:593-601 (copy can be requested from Network).



**1.c. Catheter Reduction QIP.** The MRB began development of the second QIP targeting the reduction of catheters. The topic area was determined by CMS directive to target vascular access management, the increasing Network 9/10 catheter rates, and analysis of reasons for catheter. The narrative project plan was submitted to CMS in December. The project proposes a start date of April 2002.

## **E. Focused Quality Assurance Activities**

1. Intervention Profiling. The MRB conducted an annual facility profiling process that integrates several quality domains:

(1) CPM measurements for adequacy of dialysis and treatment of anemia, (2) standardized mortality ratio, (SMR) (3) standardized catheter ratio, (SCR) (4) standardized hospitalization ratio, SHR, (5) data compliance, (6) MRB project participation, and (7) grievances.

The facility profiling process identifies facility outliers in order to assist in improving quality of care. The process assigns points (weights) to each quality indicator by its importance to patient care. Facilities acquire points when the facility rate is statistically different from the Network or the standardized rate using a 95% confidence interval or p value < 0.05. Consumer grievances are reviewed by the MRB and points are assigned on a case by case basis.

Tables E.1. and E.2. shows the number and percentage of the total programs for each point level for 1999-2001 for hemodialysis and peritoneal dialysis.

Points	Hemodialysis 1999	Hemodialysis 2000	Hemodialysis 2001
0	159 (43%)	210 (52%)	176 (44%)
> 0 ≤ 10	93 (25%)	92 (23%)	122 (30%)
> 10 < 40	100 (27%)	90 (22%)	94 (24%)
> 40 < 50	13 (4%)	9 (2%)	6 (1.5%)
≥ 50	3 (1%)	3 (1%)	1 (.25%)
Total Programs	368	404	399

Points	Peritoneal Dialysis 1999	Peritoneal Dialysis 2000	Peritoneal Dialysis 2001
0	97 (51%)	107 (61%)	104 (58%)
> 0 ≤ 10	59 (31%)	48 (28%)	50 (28%)
> 10 < 40	33 (17%)	19 (11%)	23 (13%)
> 40 < 50	1 (1%)	0 (0%)	1 (.5%)
≥ 50	0 (0%)	0 (0%)	1 (.5%)
Total Programs	190	174	179

Based on the number of points, an intervention is determined. Interventions become more intensive with the number of points acquired. MRB - Facility interventions are based on the total points acquired in the profile year. The Network's goal is that all facilities have zero points.

<b>Point Level</b>	<b>Intervention</b>
0	Process Notification
1 - 9	Process Notification and no required action
10 - 40	Facility internal review
40 - 49	MRB required facility review and action plans
50 or more	MRB required facility review, action plans and site visit

Network staff maintains monthly contact with facilities acquiring 40 points or greater. Network staff report quarterly to the MRB, facility action plan updates and outcomes.

## 2. Cooperative Activities with Other Agencies

2.a. Network 9/10 distributed unit specific reports for the USRDS in July 2001 to facility medical directors and administrators. This report included standardized mortality ratios (SMR), standardized hospitalization ratios (SHR), and standardized transplant ratio (STR) for Medicare-only patients for 1996-1998.

	# Facilities
Network 9	219
Network 10	111

2.b. Network 9/10 cooperated with the Centers for Disease Control and Prevention (CDC) to collect the national surveillance of dialysis associated diseases. A total of 401 forms were collected from facilities in Network 9/10 (270 Network 9 and 131 Network 10) for a response rate of 99%.

***GOAL 2: Establishing and improving partnerships and cooperative activities among and between the ESRD Networks, PROs, State survey agencies, and ESRD facilities/providers, ESRD facility owners, professional groups, and patient organizations.***

During 2001, the Network maintained ongoing cooperative relationships with a wide variety of organizations within the renal and Medicare communities.

### **A. Professional Affiliations.**

The Network maintains an ongoing relationship with Health Care Excel, the organization which administers the peer review organizations (PRO) for both Kentucky and Ohio. The Network is represented on cooperative committees organized by Health Care Excel. The Network worked with KePRO, the contractor for the peer review organization for the State of Ohio, on a study of cardiac risk factors in dialysis units in Northeast Ohio.

The Network acts as a resource to the departments of health in the Illinois, Indiana, Kentucky, and Ohio. Interactions between the Network and the state health agencies are ongoing. The Network continuously acts as an expert adviser for the technical aspects of dialysis, and provides Network developed resources when requested.

The Network also provides resources and contacts with other dialysis agencies, such as the the National Kidney Foundation and its affiliates, The University of Michigan Kidney Epidemiology and Cost Center, the United States Renal Data Service, and the United Network for Organ Sharing. The relationship between state health agencies and Network 9/10 continues to develop in a collaborative manner.

### **B. Patient Interaction in Network Activities.**

To promote patient input and participation in the Network, the following activities were conducted during 2001.

- ◆ New patients were informed about the Network through a New Patient Packet that the Forum distributes to new patients.
- ◆ Patients participated on Network Committees.
- ◆ New social worker folders were updated to provide a listing of resources and information to share with patients as well as material to encourage patients to become active on the Patient Leadership Committee or the Patient Advisory Counsel.
- ◆ Throughout the year, information about the PAC, PLC, and Patient-to-Patient Program and patient resources were sent to patients and staff who expressed an interest in becoming involved with any of the programs.
- ◆ The board game, *Adventure Park, ESRD Special Edition*, was distributed per request and information about the game was put on the Web site of ikidney.com.

### **C. Community Outreach Activities.**

The Renal Network acts as a clearinghouse to provide information concerning ESRD technology and treatment advances to ESRD professionals, patients, and other interested persons and organizations. Information received or generated by the Network was disseminated to the appropriate individuals at the discretion of the Executive Director or other appropriate staff persons. During 2001 information was distributed Network-wide in the following manner:

### **D. Patient Newsletter, *Renal Outreach*.**

The Renal Network publishes a newsletter for patients in the four-state area. While ESRD patients are the primary audience, ESRD professionals and members of the renal community receive the newsletter, as well. In total, about 10,000 copies are distributed with each mailing.

*Renal Outreach* provides a continuing means of communication to all patients within Network 9/10. It contains information on new therapies, medications, nutrition, exercise, and general topics of interest, as well as news of Network 9/10 and Patient Leadership Committee activities. Patients are encouraged to submit their ideas for articles and to write articles for the newsletter. Each newsletter contains at least one article written by a patient.

#### **E. Network 9/10 Handbook - Policies and Procedures.**

The Network 9 /10 Handbook was developed to ensure all member facilities are continuously apprised of Network 9/10 policies and procedures as approved by Network 9/10 Coordinating Council. The Handbook is updated periodically as policies are developed or are amended; materials are posted to the Network Web site at [www.therenalnetwork.org](http://www.therenalnetwork.org), in the policies and guidelines section.

#### **F. Web Sites**

This Web site is intended to provide information about Networks 9/10 activities, and links to other resources in the renal community. The front page is updated monthly with news. Policies, procedures, and selected data items are added as they become available.

A Web site geared toward patients was begun, [www.kidneypatientnews.org](http://www.kidneypatientnews.org). It was developed through the internship program at Purdue University with direction from the Patient Services Department. Articles with a patient focus are being developed and links and other resources will be provided.

#### **G. Patient Handbook, *Living With Kidney Disease: A Patient Manual.***

During 2001, The Renal Network revised and updated its patient manual. In 2001, the manual was distributed on an "as available" basis.

#### **H. New and Updated Resources:**

- ◆ PAC Representative Handbook
- ◆ PAC ActionGram on Adequacy of Dialysis
- ◆ Nutritional resources and posters
- ◆ Early Renal Insufficiency brochure
- ◆ Compliance/Adherence Packet

#### **I. Educational and Cooperative Activities:**

- ◆ A Consultation/phone training program was provided to a social worker in Rockford, IL in April.
- ◆ An all day in-service training program for the social workers employed by DaVita was presented by the Patient Services staff in Gary, Indiana in April.

- ◆ A presentation on Psychosocial Issues of Families was given to the nurses at the Network's annual Nephrology Conference in May by Patient Services staff.
- ◆ Patient Services staff participated in two health fairs, one conducted by Indiana University and the other by National Kidney Foundation of Illinois.
- ◆ Provided the University of Illinois booklets on early renal insufficiency to hand out to police and firemen.

## **J. Nephrology Conference**

In combining its roles as an information clearinghouse and a professional renal association, The Renal Network sponsors the Nephrology Conference each year. The 2001 Nephrology Conference was held on May 9 and 10 at the Indianapolis Marriott Downtown. This annual event is designed to allow members of the Network to come together to conduct Network business while providing educational opportunities and allowing for the exchange of ideas among members of the renal community in Illinois, Indiana, Kentucky and Ohio.

The goal of the Conference is to offer a multi-disciplinary scientific seminar, individual meetings of different professional groups, and to provide awards to those individuals and facilities who have excelled in meeting of Network goals during the year. These activities are planned in conjunction with meetings of the Medical Review Board and the Network Coordinating Council.

The Network recognizes achievement among its members by presenting awards for individuals who have made outstanding contributions to the Network, and also who have gone above and beyond the minimum to meet network reporting requirements, both in data and quality assurance.

The event is organized by the Network Planning Committee to ensure input from the Network members. Additionally, Network-wide professional groups for administrators, social workers, technicians and registered dietitians were formed to facilitate planning individual sessions for these disciplines. The Network works in conjunction with the American Nephrology Nurses Association to plan a full-day session for nurses. All programs are designed to provide continuing education credits for participants, which enhances the value of these offerings to Network members. To further integrate the conference into the renal community, businesses dealing in renal products are invited to exhibit during the event. This serves the dual purpose of providing useful information to conference participants while underwriting the event through these sponsors.

## **K. Other Activities.**

The Network has developed and maintained email list services for different audiences, including physicians, administrators and social workers. These list serves are used as warranted to provide an expedient and inexpensive means to reach a large audience with information, such as news on a variety of topics, including FDA recalls, Network nominations process and election, Network meetings, and quality initiatives.

As events warrant, informational bulletins are sent to the appropriate individuals via regular mail. These releases of information may be sent to committee members, council members, professional disciplines, patients or other related organizations. If necessary, a general release may be sent to all interested parties.

News of general interest is included in the newsletters of Network 9/10 to ensure that the network membership is kept informed of activities on a continuing basis. Network 9/10 maintains a mailing list, by category, on computer to facilitate clearinghouse functions. This listing is continuously updated to provide an efficient mailing process.

Additionally, Network 9/10 responds to individual requests for information as these are received. The requests come from a variety of individuals, from dialysis patients and family members, renal professionals, students, researchers, and planning organizations and/or dialysis corporations.

### ***GOAL 3: Evaluating and resolving patient grievances.***

The Medical Review Board developed a "Policy and Procedure to Evaluate Formal Complaints" to address grievances filed with the Network. This policy is in compliance with the CMS national policy for evaluating and resolving patient grievances. In addition, a special subcommittee of the Medical Review Board is designated to deal with grievances.

The Network 9/10 grievance policy was written and approved by the Medical Review Board, approved by the Executive Committee and approved and adopted by the Network Coordinating Council. A copy of the policy was then distributed to all facilities within the Network area. An article explaining the grievance policy was also published in ***Renal Outreach***, the patient newsletter of Network 9/10. Additionally, a summary of the grievance process is available on the Network Web site.

Network staff members routinely handle many requests for assistance directly from patients and their families, as well as facility staff members. These requests mainly involve supplying information from various sources available to the Network, such as location of dialysis centers, help with transient dialysis, location of isolation stations, specific federal regulations, etc. In some instances, the Network may act as a go-between, making an initial contact for an individual who is seeking assistance. These contacts are tracked by the SIMS information system.

The complaints are reported through the CMS quarterly report format as investigations or grievances. Investigations are the result of complaints brought to the attention of the Network through a variety of means. Grievances are formal, written complaints filed by patients or their representatives, or by facility staff members.

The Network completed two investigations and heard 27 grievances during the year 2001.

***GOAL 4: Improving data reliability, validity, and reporting between ESRD facilities/providers, Networks, and CMS and other related agencies.***

**A. Facility Compliance**

At the beginning of 2001 all dialysis and transplant facilities within the Network were participating as required by CMS and The Renal Network. At year-end 2001, all dialysis facilities within the Network 9/10 area were participating as required by CMS and The Renal Network.

The Renal Network has designed a patient medical information system to enable the continual assessment of the ESRD patient population. A computer system has been designed to integrate data, generate internal reports, and contribute to the national database.

During 1999, The Renal Networks converted to the Standardized Information Management System (SIMS) developed by the ESRD Networks and CMS and work continued to update this system as needed.

**B. System Description.**

The data processing system is based on the generation of HCFA mandated forms and a Network tracking report by ESRD facilities. These forms provide the necessary information and updates that assure the accuracy of the data system.

HCFA Medical Information System (MIS) Forms that are processed through the Network office include:

- ◆ HCFA 2728 - Chronic Renal Medical Evidence Report
- ◆ HCFA 2744 - ESRD Facility Survey
- ◆ HCFA 2746 - ESRD Death Notification

As these forms are received in the Network office, they are input on the patient database, a HCFA logging program, and a compliance program, and forwarded to HCFA.

The Network 9/10 Data Department routinely completes the following activities:

- ◆ Handling daily receipt of MIS forms and logging forms on the Network computer.
- ◆ Verifying information on MIS forms.
- ◆ Monthly review of facility compliance goals for forms submission.
- ◆ Input of MIS forms and tracking forms on Network patient information system.
- ◆ Processing of HCFA generated facsimile forms.

**C. Compliance Reporting.**

The SIMS program tracks compliance for forms submission and completion by each facility. The program generates a report showing each facility, which forms were received, and whether or not they were compliant. It also generates a master report showing compliance rates for all facilities within the Network. Compliance rates are reviewed monthly by Network staff. Quarterly, compliance reports are

generated and sent to the facilities. The Medical Review Board routinely reviews compliance rates for those facilities who fall below the CMS goals at their quarterly meetings.

#### **D. Patient Tracking System.**

The Network upgraded its computer tracking system to a Windows™ based system and disseminated the new program to all dialysis facilities within its four states. The facilities report monthly to the Network via diskette. The update included the KDQOL™ quality of life survey instrument and scoring program for use by dialysis facilities. Use of this instrument is voluntary for the dialysis facilities and interested facility staff members are referred to RAND for instructions on proper implementation.

The data system has unlimited capability to collect information on ESRD patients. Currently, more than 33,000 active and inactive patient listings are in the system. Information collected on each patient includes:

- ◆ Full Patient Name
- ◆ Social Security Number
- ◆ Medicare Number
- ◆ Demographic Information
- ◆ Patient Address
- ◆ County of Residence
- ◆ Transfer Information and Date
- ◆ Initial and Subsequent Providers
- ◆ Modes of Therapy
- ◆ Primary Diagnosis and Co-morbid Conditions
- ◆ All Types of Changes in Patient Status
- ◆ Transplant Candidate Status
- ◆ Vocational Rehabilitation Status
- ◆ Number of Treatments Performed
- ◆ Date of First Dialysis
- ◆ Current Status
- ◆ Cause of Death
- ◆ Clinical Performance Measures

After the data is computerized, it is then available for statistical manipulation. Various statistics and data profiles are generated through the Network data system as described earlier in this report. The data tables contained in this report were generated through the Network data system as well.

#### **E. Community Outreach Through Data**

Network 9/10 uses its database as a constant source of information on the ESRD population for the renal community. During 2001, Network 9/10 filled requests for Statistical Report data, for ZIP Code and county data, for facility demographic profiles, for SMR data, for core indicator data, and compliance data.



Data requests are received continuously from a variety of interested parties, including:

- ◆ Requests from facilities for information on their own programs. Often these requests ask for historical information to allow the facility to assess trends. SMR data was also released which displayed a facility's ratio compared to the Network. This allows the facility to make comparison of its ratio with its peers.
- ◆ Requests from organizations attempting to establish new ESRD programs within a given area, or from current providers who are attempting to expand their services. Data often requested includes capacity and utilization figures, and patients by residence, divided by county or ZIP Code. (All patient data released is done within the confines of established HCFA confidentiality rules.)
- ◆ Requests from state health planning agencies to assist them in assessing the need for ESRD service when reviewing Certificate of Need (CON) applications.
- ◆ Requests from researchers in a variety of interests, such as patients dialyzing by modality, by diagnoses, demographic information, and transplantation.

### **III. SANCTION RECOMMENDATIONS.**

No requests were made during 2001 to the Health Care Financing Administration for sanctions of area facilities.

### **IV. RECOMMENDATIONS FOR ADDITIONAL FACILITIES**

Each year through the patient tracking system, The Renal Network conducts a review of facility operations. This information is made available to the provider community for many uses, including estimating need for additional services.

From this report the following information is available:

"Services Rendered," describes each facility by area of location within the Network and the modes of therapy offered.

"Current Operations," shows the number of stations currently operating at each dialysis facility within the Network.

"Patient Capacity by Facility," calculates the total number of patients that could dialyze at each facility based on the number of shifts and stations available at that facility.

"Utilization," identifies the actual utilization of each dialysis facility at year-end 1999.

"Pediatric ESRD Facilities," shows the number of stations currently operating at each pediatric dialysis facility within the Network.