# 2005 Annual Report

## ESRD Network Area #3
## Contract Number: 500-03-NW03

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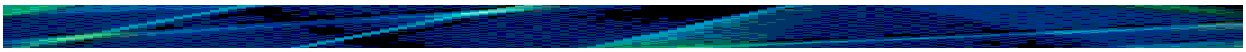

## 1. Preface

I am pleased to submit this annual report of performance and achievements on behalf of all ambulatory renal care facilities within Network 3.

The Fistula First Breakthrough Initiative surpassed the CMS goal established for network #3 and will continue to improve performance in order to attain the 66% goal by 2009. The local coalition in the vascular access project will continue so that consumers can benefit from a well-functioning fistula. Such sustained progress serves as a testament to the dedication and commitment of professional staff. The project will see a more focused effort to educate consumers about the benefits of fistula use.

The number of catheters in use for longer periods of time will continue to be addressed. This effort parallels the activities aimed at increasing the number of fistulas in use, preferably inserted before the initiation of treatment.

Facility staff are to be congratulated for achieving the improvements in fistula rates as well as joining the coalition and working with a full range of partners to attain the highest quality of care for all patients. The expected levels of treatment adequacy and anemia management are being maintained as well as transplant referrals.

Finally, I would like to express our appreciation to network staff that coordinate and support all the administrative work we perform.

We look forward to the continuation of this partnership with the Centers for Medicare & Medicaid Services, facility staff, consumers, departments of health and other interested agencies as we begin another phase of health care quality improvement projects.

Toros Kapoian, MD — June 30, 2006
President, Board of Trustees

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## 2. Introduction

### A. Network Description

New Jersey contains 8,215 square miles with 21 counties and 567 municipalities. Its highest elevation is 1,803 feet at High Point and its lowest is sea level at the Atlantic Ocean with an average elevation of 250 feet. Although New Jersey is geographically one of the smallest states in the nation (it ranks 46th), it is the ninth most populous, with approximately 8.7 million residents. There are 1,172.8 inhabitants per square mile of land area - the most densely populated state in the nation.[1] The population is expected to increase 24% by 2030.

The majority of residents reside in metropolitan areas with only 10.6% in rural areas. The U.S. Census Bureau categorized only New Jersey and the District of Columbia as 100% metropolitan areas. The only area to surpass New Jersey in degree of urbanization is California (92.6%) where it has the largest resident state population (35.4 million). However, California has a population density of only 227.5/sq. mi.

Approximately 13% of New Jersey's population base is aged 65 and older. The highest concentration of those age 65 or older is found in Ocean and Cape May counties. Nationally, twenty-three other states had a higher percentage of those 65 and older; the national average is 12.4 per cent.

Not all age groups are equally constituted. The under 5 age group constitutes 6.7% of the resident population; the 5-17 age group accounts for 18% of the population; the 18-24 group for 8.5%, the 25-44 age group for 28.9%; the 45-54 for 14.7%, the 55 to 64 group for 10.1% and the 65+ age group for 13% of the population. It is important to note that from 1990 - 1998 the 85 and older age group increased by 38%. This growth in the aged population among the residents of New Jersey contributes to the increase in the mean age of consumers presenting for renal therapy due to end-stage disease.

The population is reported to be 77% white, 14.5% black, 6.5% Asian and 2% other. Most of the population growth in New Jersey during the last decade occurred in minority populations; Hispanics sustained the largest increase. Hispanics now constitute approximately 14.5% of the population within New Jersey and Hispanics of Puerto Rican decent comprise more than 33% of all Hispanic residents. The largest increase of New Jersey's Hispanic residents occurred in Hudson and Passaic counties.

New Jersey is surpassed by only 6 other states in the proportion of resident Hispanic or Latino residents. California (34.3%), Texas (33.6%), Arizona (27.7%), Florida (18.6%), Illinois (13.6%) and New York (16.3%) surpass New Jersey's 13.3% resident Hispanics and Latinos.

For the year 2003, New Jersey remained fifth in the number of immigrants admitted from other countries and was surpassed only by the states of California, Florida, New York and Texas. The US Census Bureau reported the admission to New Jersey of 40,699 immigrants from other countries with 7,442 from India, 3,956 from the Dominican Republic, 2,639 from the Philippines, 1,922 from Columbia, 1,686 from China, 631 from El Salvador and 431 from Vietnam. Foreign-born residents account for 17.5% of the state's population, exceeded only by California (26.2%) and New York with 20.4%.

The state ranked eighth in the number of unauthorized immigrants surpassed by California, Texas, New York, Illinois, Florida, Arizona, and Georgia. Mexico was identified as the country of origin for 69% of these persons.

[1] All demographic data are taken from the *Statistical Abstract of the United States:2006-125 ed.,* US Census Bureau, Washington, DC, 2005 unless otherwise noted.

Eighty-three percent of New Jersey residents were born in the United States. New Jersey's birth rate of 13.5 is lower than the national rate of 14.1/1,000 estimated population as is its fertility rate (per 1,000 women aged 15-44 years estimated) of 64.5 vs. 66.1. Death rates by cause show the leading cause to be heart disease followed by cancer, cerebrovascular diseases, chronic lower respiratory diseases, accidents, diabetes mellitus, vehicle accidents, HIV. The death rate was 7.9 (per 1,000) in 2003 while the national rate was 8.3.

The marriage rate in the state (per 1,000 population) in 2004 was 5.8, lower than the national rate of 7.4; divorce rates were reported to be 3.0 in New Jersey and 3.7 nationally.

In 1998, the latest available Census data showed New Jersey per capita personal health care expenditures ($2,900/resident) were exceeded only by the states of Connecticut ($3,298), New York ($3,255), Pennsylvania ($2,941) and Rhode Island ($2,937). The major portion was expended on hospital services followed by physician services, drugs and non-durables, nursing home care, other professional services, dental services, home health care, other personal health care and medical durables.

Health insurance coverage in 2003 did not extend to 14% of the New Jersey population; the national average in 2003 was 11.4% and 14.0% in 2000. Children not covered in New Jersey in 2002 was 9.7%, 9.3% in 2000; the national average was 11.6% in 2000.

Excluding doctors of osteopathy and federal employees, New Jersey in 2003 had 310 physicians per 100,000 population, an increase over the 2000 rate of 298. The 2003 national rate was 266

New Jersey residents in 2004 attained Bachelor's degrees (or higher) in 34.6% of the population which has steadily increased from 1990 when it was 24.9%; only the states of Colorado, Maryland, Massachusetts and New Hampshire surpassed New Jersey. The national average was 27.7%

In 2004, the average elementary and secondary school teacher's salary in New Jersey was $55,600. New Jersey was surpassed by only three other states for secondary school salaries: California, Connecticut and Illinois ($56.4, $58.1 and $61.8). The national average for all elementary and secondary salaries was $43,300 in 2001; in 2004 it was $46.8.

The New Jersey unemployment rate[2] for 2005 was recorded to be 4.4%. Variations among the 21 counties ranged from 3.0% to 6.4%.

| COUNTY | 1990 (%) | 1995 (%) | 2000 (%) | 2002 (%) | 2004 (%) | 2005 (%) |
|---|---|---|---|---|---|---|
| Atlantic | 6.2 | 8.6 | 5.7 | 6.6 | 6.1 | 5.2 |
| Bergen | 3.9 | 5.8 | 3.1 | 5.0 | 4.0 | 3.7 |
| Burlington | 4.6 | 5.0 | 2.9 | 4.6 | 4.2 | 3.7 |
| Camden | 5.9 | 6.4 | 3.9 | 5.8 | 5.4 | 4.7 |
| Cape May | 7.7 | 12.1 | 8.6 | 9.6 | 6.8 | 6.4 |
| Cumberland | 7.5 | 9.8 | 7.2 | 8.5 | 6.7 | 6.2 |
| Essex | 6.3 | 7.7 | 4.7 | 7.3 | 5.9 | 5.6 |
| Gloucester | 5.6 | 6.5 | 3.8 | 5.2 | 4.9 | 4.3 |
| Hudson | 7.3 | 9.3 | 5.7 | 8.1 | 5.9 | 5.4 |
| Hunterdon | 2.7 | 3.2 | 1.7 | 3.6 | 3.2 | 3.0 |
| Mercer | 4.4 | 5.4 | 3.0 | 5.1 | 4.2 | 3.8 |
| Middlesex | 4.5 | 5.5 | 3.1 | 5.4 | 4.5 | 4.1 |
| Monmouth | 4.1 | 5.4 | 3.2 | 5.3 | 4.4 | 4.0 |

[2] http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi11/lfyr2005.xls

| COUNTY | 1990 (%) | 1995 (%) | 2000 (%) | 2002 (%) | 2004 (%) | 2005 (%) |
|---|---|---|---|---|---|---|
| Morris | 3.2 | 4.3 | 2.3 | 4.4 | 3.5 | 3.2 |
| Ocean | 5.1 | 6.2 | 3.9 | 5.4 | 4.9 | 4.5 |
| Passaic | 6.4 | 8.6 | 5.0 | 7.5 | 5.9 | 5.4 |
| Salem | 5.3 | 6.5 | 4.4 | 6.4 | 5.5 | 4.8 |
| Somerset | 2.9 | 3.8 | 2.1 | 4.4 | 3.7 | 3.3 |
| Sussex | 4.2 | 5.7 | 2.9 | 5.1 | 4.1 | 3.8 |
| Union | 5.4 | 6.5 | 4.0 | 6.4 | 5.1 | 4.7 |
| Warren | 4.3 | 5.7 | 3.1 | 5.3 | 4.3 | 3.8 |
| *All* | *5.1* | *4.6* | *3.8* | *5.8* | *4.8* | *4.4* |

The average annual wage in New Jersey (2000) was $43,691; in 2003 it was $46,351 which was highest of all states. Disposable personal income rankings showed New Jersey higher than all states except Connecticut, at 123% of the national average. New Jersey's median household income in 2000 ($51,739) was third highest in the country as reported by the Census Bureau and in 2003 ($58,588) it ranked number one. It ranked first in median family income at $70,263.

The 2004 average New Jersey per capita personal income ($41,626) was higher than 2000 ($38,372) as reported by the Census Bureau). New Jersey ranked fourth in the last several years and has been in the top ten states since 1983. County variation showed:

| COUNTY | 1996 | 2000 | 2001 | 2003 | 2004[3] |
|---|---|---|---|---|---|
| Atlantic | 29,415 | 31,618 | 31,550 | 31,749 | 32,538 |
| Bergen | 40,676 | 50,435 | 51,900 | 51,758 | 53,131 |
| Burlington | 26,669 | 33,910 | 34,683 | 37,105 | 38,575 |
| Camden | 25,518 | 29,312 | 30,496 | 32,449 | 34,422 |
| Cape May | 25,759 | 30,611 | 31,412 | 34,386, | 36,525 |
| Cumberland | 20,662 | 22,675 | 23,616 | 26,012 | 27,224 |
| Essex | 31,411 | 35,919 | 37,134 | 37,963 | 40,634 |
| Gloucester | 23,374 | 28,296 | 29,243 | 31,056 | 32,619 |
| Hudson | 24,233 | 28,100 | 28,584 | 30,447 | 32,947 |
| Hunterdon | 37,675 | 52,107 | 53,815 | 55,196 | 59,384 |
| Mercer | 33,893 | 40,911 | 42,317 | 41,499 | 44,661 |
| Middlesex | 29,544 | 36,196 | 36,691 | 38,096, | 40,036 |
| Monmouth | 32,401 | 40,639 | 42,028 | 43,427 | 45,784 |
| Morris | 41,018 | 56,047 | 58,151 | 55,796 | 58,817 |
| Ocean | 25,113 | 29,694 | 30,023 | 31,782 | 33,558 |
| Passaic | 24,426 | 29,023 | 29,355 | 32,003 | 33,249 |
| Salem | 24,374 | 28,949 | 29,149 | 29,568 | 31,246 |
| Somerset | 44,089 | 56,613 | 55,580 | 55,443 | 57,033 |
| Sussex | 27,134 | 34,563 | 34,628 | 38,196 | 39,931 |
| Union | 33,090 | 40,016 | 41,149 | 40,181 | 42,728 |
| Warren | 25,466 | 31,026 | 31,323 | 33,579 | 35,016 |
| *US* | *24,164* | *29,847* | *29,770* | *31,632* | *34,586* |

[3] http://www.wnjpin.net/OneStopCareerCenter/LaborMarketInformation/lmi10/pcicnty.htm

The New Jersey population estimated to be below the poverty level was 8.4% while the national rate was 12.7%; four states had lower rates than New Jersey. In 1980, 9.0% of New Jersey's population was reported to be below the poverty level; the national rate was 13.0%.

Average retired workers 2004 monthly benefit dollars were the highest of all states at $1,054. The average weekly unemployment benefit in New Jersey was second highest at $331.

**INCIDENCE OF RENAL DISEASE IN NEW JERSEY**

In 2003, all but two states had an adjusted end-stage renal disease incidence rate that exceeded 200 per million population[4]. The *2005 Annual Data Report* of the United States Renal Data System (USRDS) listed six states with higher age, race, sex-adjusted incidence rates than New Jersey compared to ten states in 2001. The New Jersey adjusted incidence rate in 2003 was reported to be 351/million.

Nationally, the median age was reported in the *2004 Annual Data Report* of the USRDS to be 64.8 in 2003.

According to the ESRD Facility Survey in 2005, 3,401 consumers initiated therapy in New Jersey facilities compared to the 2004 count of 3,251. Older people, in particular those over 65 years of age, continued to represent the largest and fastest growing age group of ESRD beneficiaries. Of the total new starts in 2005, 58% were 65 years or older and 48% were 70 years or older. Twenty-two percent were 80 years or older.

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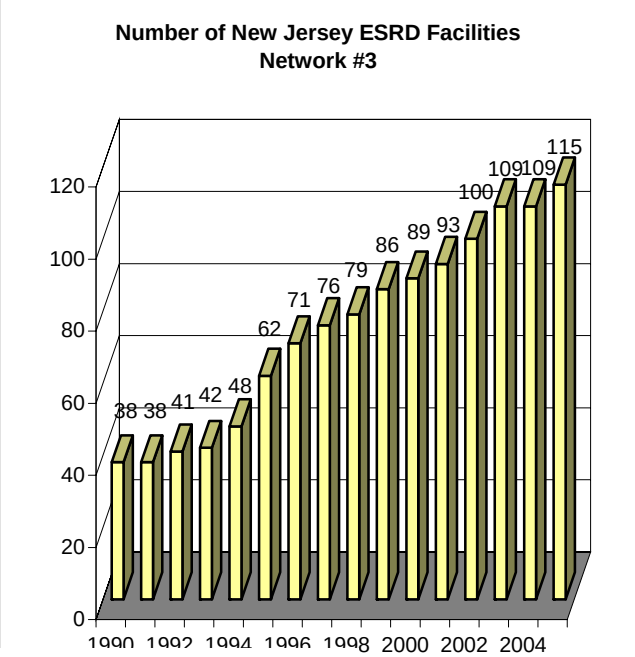
Other characteristics of the New Jersey incident population closely mirror national new case renal statistics: 57% were male and 43% female; 31% black and 63% white.

Among incident cases the most frequently reported primary diagnoses were diabetes (43%) and hypertension (31%). Collectively, these two diagnoses represented the largest proportion of new cases in 2005.

**RENAL THERAPY IN NEW JERSEY**

The New Jersey Department of Health regulated the approval of all new ESRD providers and expansion of services through the certificate of need process until January 1992. Since that time, chronic ambulatory dialysis is no longer subject to certificate of need requirements. The number of facilities increased from 38 in 1991 to 114 (not including a non-Medicare certified ESRD veterans hospital) in 2005.

In 2005, the total approved station count rose to 2,085 in 114 Medicare-certified facilities. Most facilities are no longer hospital-based since 80 free-standing clinics and 8 hospital satellite facilities provide service. There were 26 hospital-based facilities and one veteran's administration



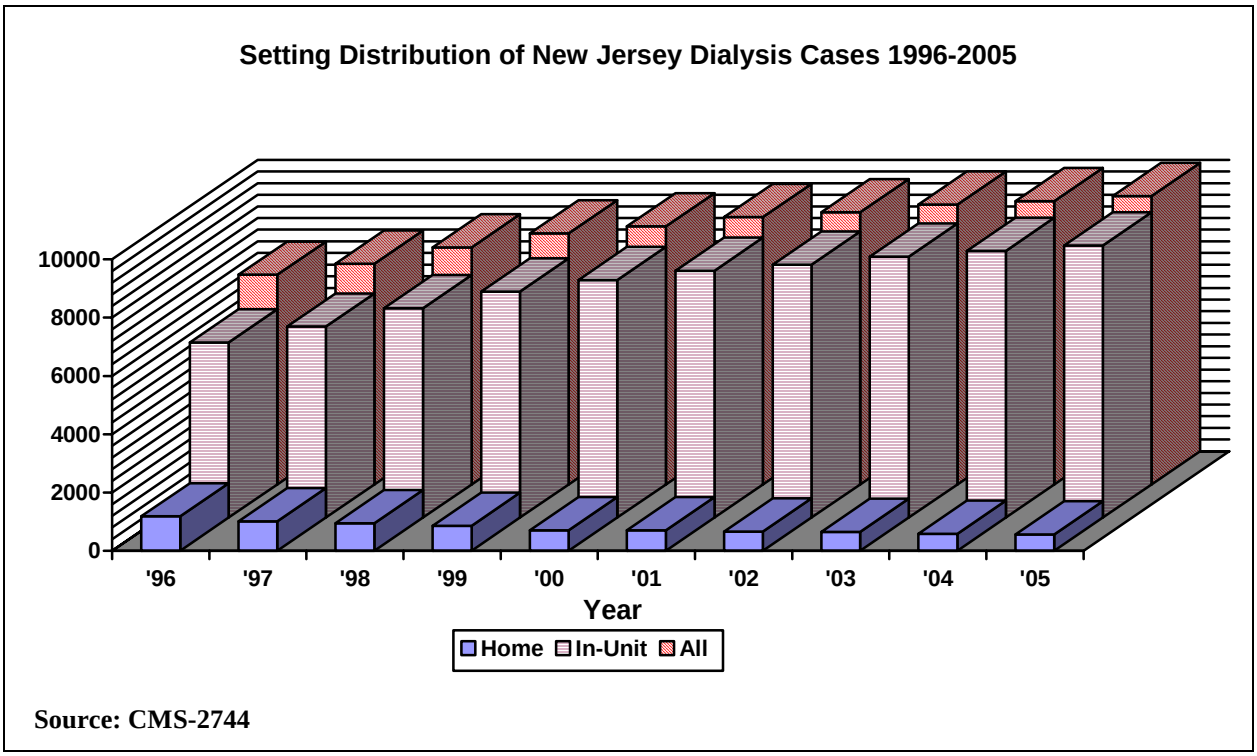

Source: CMS Approval Letters

[4] Source: US Renal Data System, *USRDS 2004 Annual Data Report: Atlas of End-Stage Renal Disease in the United States.* NIH, NIDDK, Bethesda, Md, 2004

hospital, which is not a participant in the Medicare program.

Almost all facilities were approved to provide staff-assisted hemodialysis except for 2 peritoneal dialysis-only units. Of the facilities offering home dialysis 63% offered CAPD/CCPD training; 17% offered hemodialysis home training. These services reflect the choices among patient and physician preferences for therapy and were available throughout the state.

Staff-assisted hemodialysis, favored by 94% of ESRD consumers (83% in 1996), remained the dominant therapy in the state. Continuous cycling peritoneal dialysis (CCPD) became the dominant home therapy (n=368) with continuous ambulatory peritoneal dialysis (CAPD) the second most prevalent (n=171). Home hemodialysis accounted for only 24 cases statewide in 2005.




**Source: CMS-2744**

## PREVALENCE

The USRDS published adjusted annual point prevalence rates/million population for 1990-2003 by state. New Jersey results were 837, 924, 993, 1050, 1122, 1178, 1227, 1280, 1345, 1414, 1441, 1475, 1,505 and 1,538 respectively.

The 2005 prevalent caseload increased 3% over the prior year. Of the approximately 10,000 prevalent consumers receiving dialysis in New Jersey, 56% were male and 44% female. Forty-two percent of the population on dialysis was black, 50% white, with other racial groups constituting the remainder.

Thirty-eight percent of the consumers receiving chronic dialysis were 70 years or older, and 11% were within the 60-69 age group. Fifty-nine percent of the prevalent consumers receiving dialytic therapy in New Jersey during 2005 were aged sixty years or older. The aged population continues to be the fastest growing segment both receiving long-term chronic care and initiating treatment.

Diabetes was the most frequently reported primary disease of all prevalent consumers on dialysis at 40%. Hypertension followed at 30% of the caseload and “other” ranked third at 11%. The majority of consumers (70%) in treatment were diagnosed with either diabetic nephropathy or hypertensive disease--the two leading national risk factors for ESRD.

**MORTALITY DATA**

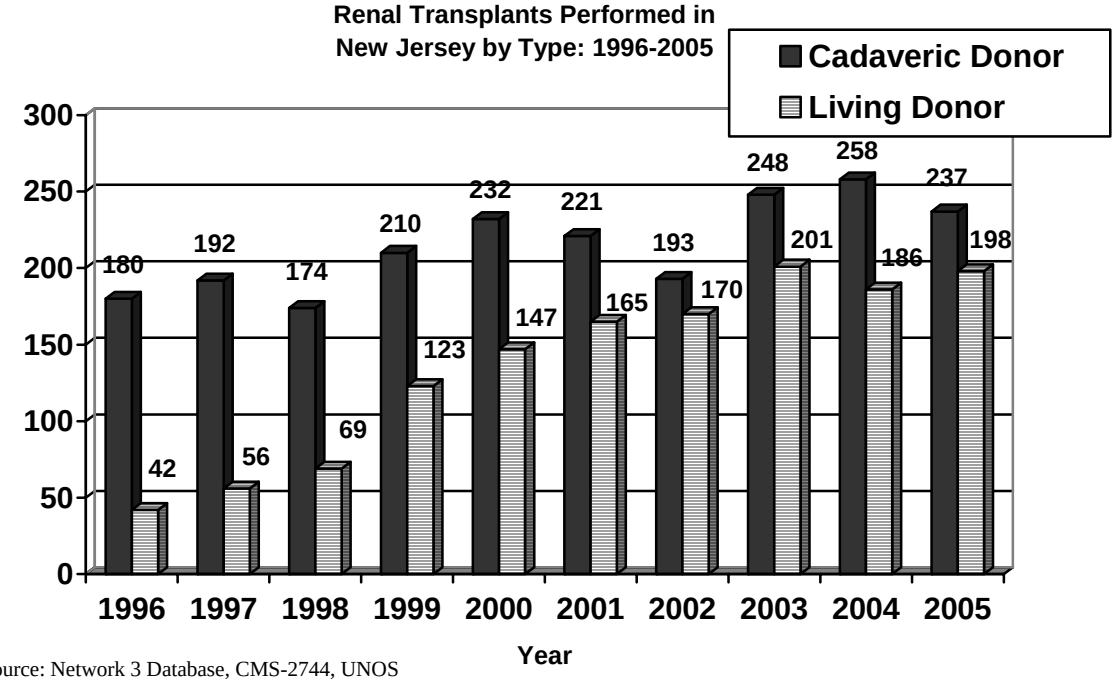
Death notification reports for New Jersey ESRD consumers were analyzed by sex, race, and cause of death. The primary cause of death reported in 2005 continued to be cardiac (50%) which again reflected national data. Infection was reported as primary cause in 19% of the 2557 death records received. Of all deaths reported in 2005, 64% were white, 30% black; 54% were male, 46% female. Primary diagnoses among deaths reported were diabetes (43%), hypertension (33%), glomerulonephritis (7%), polycystic disease (1%) and other/unknown.

**TRANSPLANTATION**

Five renal transplant centers serviced the New Jersey ESRD population with referrals also being made to neighboring New York, Pennsylvania and Maryland. Recent years have seen an inflow for transplantation to New Jersey from neighboring state residents as well. Organ procurement activities were the responsibility of two federally-approved agencies, the New Jersey Organ and Tissue Sharing Network (The Sharing Network) and the Gift of Life Donor Program.

In 2005, 435 transplants were performed in New Jersey at federally-certified ESRD renal transplant centers, a slight decrease from the prior year. Of the 435 transplant procedures performed within New Jersey, 237 had cadaveric donors and 198 had living donors.

The number of consumers on a waiting list in New Jersey continued to increase to a total of 1,101. Unless the donor pool is enlarged, transplantation will not be available to the majority of consumers on the list except, perhaps, after a lengthy waiting period. Alternatively, living donor transplantation may be able to provide some candidates with more timely access to this modality.




Source: Network 3 Database, CMS-2744, UNOS
Trans-Atlantic Renal Council

**Puerto Rico and the Virgin Islands**

**Geography and the General Population Characteristics**

**Puerto Rico**

Similar to New Jersey, Puerto Rico is densely populated (1,124/sq. mi.) with land area covering nearly 3,425 square miles and a 2004 population of 3.894 million (est.)[5]. There were 1,027.9 inhabitants per square mile according to the 2000 census. Between 1990 and 2000, the population increased 8%.

Droughts are one of the naturally occurring hazards to the local population. Sediment buildup (60% storage reduction over the last 50 years) in reservoirs reduced the holding capacity of several major water supplies. Reclamation efforts are underway and should reduce the periodic threat to potable water supplies. The U.S. Geological Survey works with 15 local agencies to operate a real-time hazard alert network concerned with rainfall, stream flow, lake levels and beach erosion from catastrophic events[6].

In recent years Puerto Rico has experienced major expansion in the construction and tourism sectors. Construction of housing, commercial buildings and infrastructure (super aqueduct, urban train, highways) contributed to economic development. Some manufacturing plants did expand but the effect of favorable tax benefit elimination is uncertain for the future. The economic benefits to businesses provided under Section 936 were completely phased out in 2005.

The 2003 Census Bureau report showed that the labor force (1.378 million) was distributed predominantly among several major types of work: 2% were engaged in agriculture, 10% in manufacturing, 19% in trade and 20% in government positions. Approximately 14% were unemployed in 1998, 13.7% in 1999, 11% in 2000 and 12% in 2003. The closing of the navy's air base at Roosevelt Roads on the eastern shore of the island had a significant effect on local economy. Future use plans are not finalized.

One in every four Hispanic families lives at the federal poverty level with average earnings well below the U.S. national average. Forty percent of all households rely on some form of public assistance. The average monthly benefit paid to retired workers is $527. The average annual employee compensation reported by the most recent Bureau of the Census publication (2000) was $20,064; the average family income was $33,559.

The birth rate reported by the U.S. Bureau of the Census in 2000 was 15.2/1,000 population and 13.7 in 2002. The death rate (2000) was 7.2/1,000 population and 7.3 in 2003. The median age rose from 32.1 in 2000 to 33.8 in 2004 as reported by the Census Bureau. Of the residents, 509,856 (23%) were high school graduates; 418,253 (19%) had a bachelor's degree or higher.

Trend analysis of the 2000 census data suggests that, even though the population is younger than stateside, it is aging at a more rapid pace and the proportion over the age of 65 rose more than that stateside, where it declined slightly. Also of note is the drop in fertility rate which was 2.3 in 1990 but 1.8 in 2000.[7]

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[5] Source: *Statistical Abstract of the United States: 2004-2005,* US Census Bureau, US Dept of Commerce, 2006

[6] Source*:* GSA Center, US Geological Center, *Island hydrology: Puerto Rico and the US Virgin Islands,* at http://pr.water.usgs.gov/public/webb/webb010

[7] Source:*The Mainstream Effect-census of Puerto Rico's population,* Alison Stein Wellner, www.findarticles.com/p/articles/mi_m0GDE/is_18_21/ai_80088606

**Puerto Rico Population by Age, 2000, 2004 (est.)**

| Age Group | 2000 | 2004 est. |
|---|---|---|
| 0-24 | 1,520,995 | 1,460,917 |
| 25-54 | 1,513,031 | 1,554,930 |
| 55-64 | 349,447 | 402,810 |
| 65-74 | 240,951 | 269,021 |
| 75-84 | 184,186 | 207177 |
| All | 3,808,610 | 3,894,855 |

Source: Table 2 Annual Estimates of the Population by Sex and Age for Puerto Rico: April 1, 2000 to July 1, 2004, Population Division, US Census Bureau, March 2005.

Social Security beneficiaries in 2004 (Census Bureau) numbered 705,000 with an average monthly benefit payment of $635 for retired workers, $767 for disabled and $565 for widows/widowers. These payments are lower than in all other areas except American Samoa and the Northern Mariana Islands.

The 2002 death rates for major causes of death in Puerto Rico are in order: heart disease, cancer, diabetes, cerebrovascular diseases, accidents, chronic respiratory, assault, HIV, motor vehicle accidents as reported by the Census Bureau. The rate for diabetes mellitus (63.9) was the highest among all states and the District of Columbia.

**The U.S. Virgin Islands**

The territory of the Virgin Islands consists of 3 islands - St. Thomas, St. Croix and St. John - and about 50 islets, most of which are uninhabited. These islands are located 60 miles southeast of Puerto Rico between the Caribbean Sea and the Atlantic Ocean in the Lesser Antilles chain of the West Indies. It is an unincorporated territory of the United States administered by the Office of Insular Affairs, U.S. Department of the Interior. The governor and lieutenant governor are elected for four-year terms.

The land area covers 134 square miles with an overall population estimated to be 109,000. There were 810 residents/sq. mi. in 2000. Population density fluctuates among the individual islands. St. Thomas has the highest density with 1,579 persons per sq. mi.; St. Croix has 583/sq. mi. and St. John only 118/sq. mi.

**Population of the US Virgin Islands: 1990 and 2000**

| Island | 1990 | 2000 | % change |
|---|---|---|---|
| St. Croix | 50,139 | 53,234 | 6.2 |
| St. Thomas | 48,166 | 51,181 | 6.3 |
| St. John | 3,504 | 4,197 | 19.8 |
| All | 101,809 | 108,612 | 6.7 |

Source: US Census Bureau, *Statistical Abstract 2004-2005.*

Residents are comprised of people from the West Indies (45% native to Virgin Islands, 29% born elsewhere in West Indies), Puerto Rico (5%), U.S. mainland (13%), and other (8%)[8]. Racial composition in the Virgin Islands is estimated to be 80% black, 15% white and 5% other. Spanish and Creole are spoken in addition to English.

[8] Source: www.infoplease.com/ipa/A0113951; www.cia.gov/cia/publications/factbook/print/vq

**US Virgin Islands Population by Age Group: 2000, 2004**

| Age Group | 2000 | 2004 |
|---|---|---|
| 0-24 | 42,855 | 40,182 |
| 25-54 | 44,883 | 43,670 |
| 55-64 | 11,652 | 13,848 |
| 65-74 | 5,931 | 7,015 |
| 75-79 | 1,626 | 1,965 |
| 80+ | 1,690 | 2,095 |
| All | 108,637 | 108,775 |

Source: US Bureau of the Census, International Database.

Approximately 37% of the territory's population resides in urban areas, while 63% is located in rural or suburban developing communities. Forty-six percent of the population resides on the island of St. Thomas. Charlotte Amalie remains the urban center of St. Thomas. Christiansted and Frederiksted are the major towns on St. Croix.

The birth rate reported by the U.S. Census Bureau has been declining since 1990 when it was reported to be 21.8, 18.1 in 1995, 12.9 in 2000. The median age was reported to be 33.5 in 2000 and 35.9 in 2004. The death rate was reported to be 4.6 in 1990, 5.8 in 1995 and 5.3 in 2000. The major causes of death in 2001 were in order: heart disease, cancer, cerebrovascular diseases, accidents, diabetes and assault.

In 2000 the Census Bureau reported that of the 65,603 residents 25 years and older, 17,044 (26%) were high school graduates and 10,989 (17%) held a bachelor's degree or higher. The median income was $28,553 in 2000. In 2004, 16,000 beneficiaries received social security benefits: 12,000 retired workers, 2,000 widows/widowers and 2,000 disabled workers. The average monthly benefit for retirees was $824, $908 for disabled and $721 for widows and widowers.

The primary economic engine of the islands is tourism[9]. It accounts for more than 70% of gross domestic product. Approximately 32% of the employed were in retail sales or the services provided for recreation, motels, hotels and restaurants. Manufacturing includes textile, electronics, pharmaceutics and watch assembly. The estimated unemployment rate in 2003 was 9.3%, higher than the 6.2% in 1994. The total labor force is estimated to be 48,000 distributed among services (62%), industry (20%), agriculture (1%), and other (17%).

In 1989 hurricane Hugo caused $500 million damage, followed in 1995 by hurricane Marilyn from which residents have not yet completely recovered. Local business owners continue to lament the drop in available advertising money that is funded through hotel taxes since many hotels had to close because of hurricane damage. In 1997 it was anticipated that only $8.5 million would be raised through the hotel tax which was considered to be insufficient. The inventory of hotel rooms before the hurricane was estimated to be 1,400 while in 1997 was approximately 850. Governmental fiscal administration was hampered by an imbalance in funds received compared to funds to be disbursed to vendors, tax refunds, and overdue wages. However, cruise ships returned after the dock was reconstructed; in 2003 passengers numbered 1.7 million.[10]

One of the world's largest petroleum refineries is on St. Croix. Little agriculture is present and most foodstuffs are imported.

[9] Source: www.infoplease.com/ipa/A0113951

[10] Source: www.lonelyplanet.com/destinations/caribbean/us_virgin_islands

The Virgin Islands have a strategic importance located along the Anegada Passage, which is a key shipping lane for the Panama Canal. Saint Thomas has one of the best natural deepwater harbors in the Caribbean.

*(Puerto Rico and the Virgin Islands are not included in all tables of the various demographic reports utilized to describe these areas, which limits some comparisons to national published data.)*

**Renal Disease: Puerto Rico and the U.S. Virgin Islands**

The number of newly diagnosed ESRD cases, was 1,214 in Puerto Rico and 54 in the Virgin Islands. Sixty-five percent of the newly diagnosed in Puerto Rico and 52% in the Virgin Islands were reported to have a primary diagnosis of diabetic nephropathy. This continued to parallel the national trend of the growing number of diabetics starting dialytic therapy and represents a marked increase from 1990 when diabetes as the primary cause in new cases was only 45%. Hypertension was the second highest reported diagnosis at 14% and 8% of the newly diagnosed caseload with glomerulonephritis in Puerto Rico with comparable rates in the Virgin Islands of 30% and 6% respectively.

These rates vary when analyzing the data received on all prevalent consumers alive at year-end 2005 on the islands. At year-end 3,669 consumers received treatment, a 3% increase from 2003. Of these consumers, 56% reported diabetes as primary cause of renal failure, 13% glomerulonephritis and 16% hypertensive disease. Comparable rates for the Virgin Islands were 47%, 7% and 34%. The majority of consumers in Puerto Rico were reported as racially mixed (58%) and male (61%). In the Virgin Islands 83% were African American and 61% male.

Age grouping is similar for both new cases and the prevalent dialysis patient population on the islands. In Puerto Rico the incident and prevalent population in the 50-69 age group is dominant - 50% and 55% respectively. Twenty-nine percent of prevalent cases are between the ages of 30 and 54. Thirty percent of the incident cases are age 70 or more. Twenty-two percent of the prevalent cases are age seventy or older.

In the Virgin Islands the incident and prevalent population in the 60-74 age group is dominant with 43% for both groups. Thirty percent of prevalent cases are between the ages of 30 and 54. Thirty-nine percent of the incident cases are age 70 or more. Twenty-three percent of the prevalent cases are age seventy or older.

The primary cause of death for ESRD consumers treated in Puerto Rico at year-end was infection (34%); cardiac ranked second (32%). The primary cause of death for ESRD consumers treated in the Virgin Islands at year-end was cardiac (49%); infection ranked second (26%).

**Treatment Modalities**

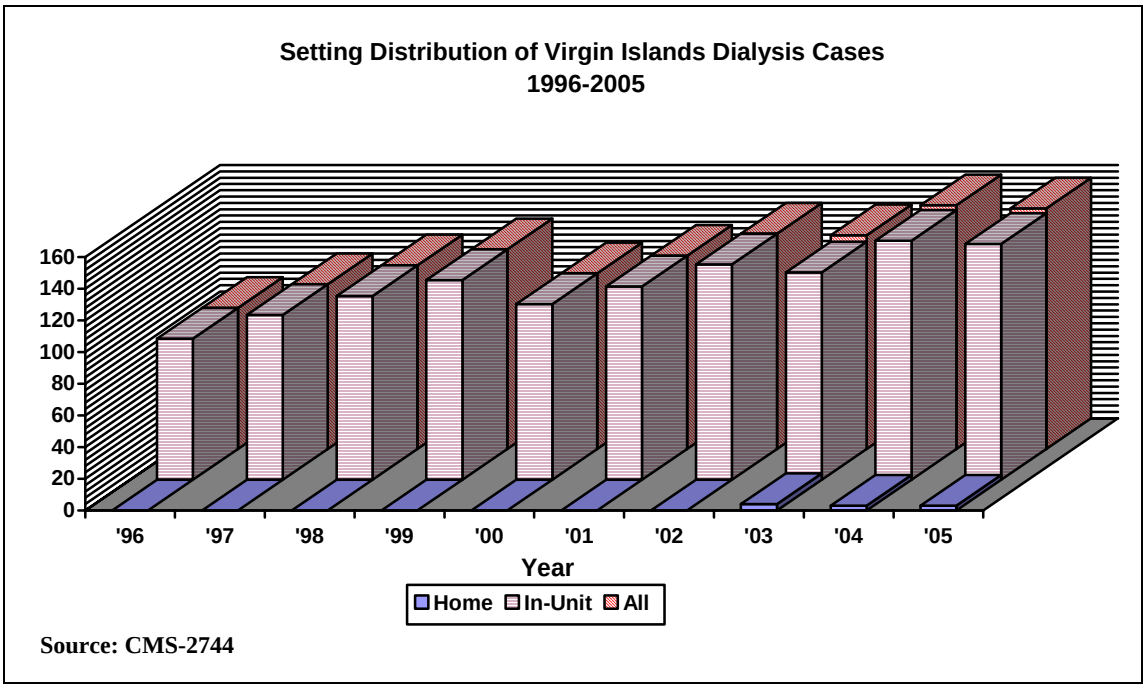
Thirty-six facilities were approved on the island of Puerto Rico to provide dialysis services, one transplant center and three dialysis facilities within the U.S. Virgin Islands (one hospital-based unit on the island of St. Thomas, one hospital-based unit on St. Croix and one free-standing facility on St. Croix). Twenty-nine facilities on Puerto Rico are freestanding clinics. There is one veteran's administration hospital and 8 hospital-based units on Puerto Rico. The station count increased to 790 from 776 in 2003 (inclusive of Puerto Rico and the Virgin Islands). The three facilities on the Virgin Islands had a total of 30 stations and a total of 160 cases at year-end.

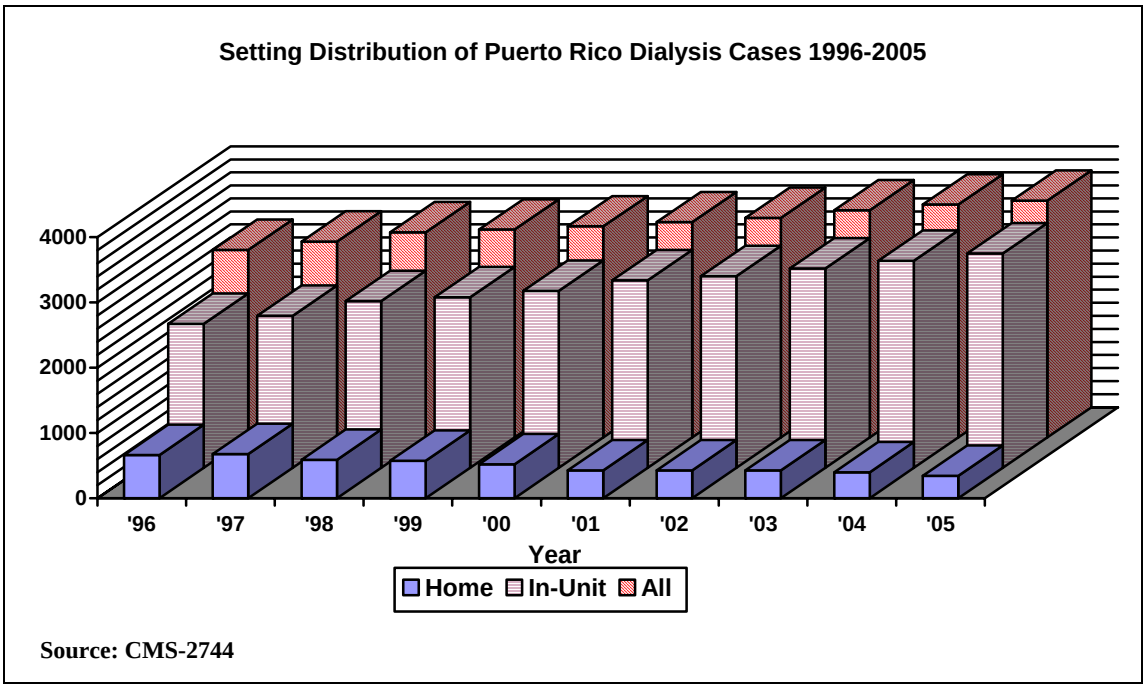
Treatment choice continued to favor staff-assisted hemodialysis—3,173 (91%) consumers in Puerto Rico and all consumers on St. Thomas and St. Croix. Self-care training in CAPD, CCPD and home hemodialysis were provided in Puerto Rico. Eighty-three percent of the home population was on home CCPD. In 2005, 287 consumers were on CCPD and 54 consumers were on CAPD; five consumers used

home hemodialysis for a rate of 9%. The combined total of consumers on various forms of home dialysis in Puerto Rico equaled 346 in 2005, 400 in 2004, 427 in 2003, 426 in 2002, 521 in 2000, 574 in 1999 and 679 in 1998. In St. Croix, three consumers were on CAPD.

One hundred nine transplants were performed in 2005 at the one Medicare-approved transplant center. This was an increase of 27% above 2004 performance. Of these procedures, 87 were from cadaveric donors and 22 from living donors. There were 448 consumers on an active waiting list.

Formerly, the organ procurement agency was located at the transplant hospital and was part of that organization. In 1996 a separate agency was established, Life Link of Puerto Rico, which is affiliated with Life Link of Florida.



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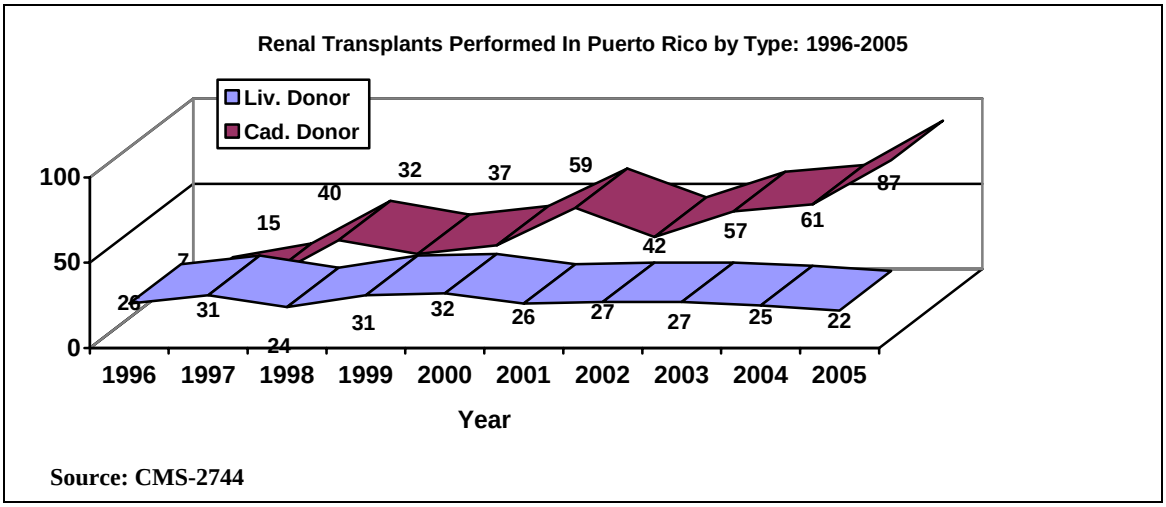


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(Note: USRDS data do not provide Puerto Rico/US Virgin Island-specific comparative data.)

## B. Network Structure

### 1) Staffing

Professional and clerical staff conducted daily activities of the network organization under the direction of the Board of Trustees and in accordance with federal guidance.

### 2) Names And Titles Of Staff

| | | |
|---|---|---|
| Cheryl Brown<br>*Data Clerk* | Beverly Hoek<br>*QI Administrator* | Tricia Phulchand<br>*Office Manager* |
| June Chronic Huhn<br>*Patient Services Coordinator*<br>*Sr QI Coordinator* | Chris Brown<br>*Data Manager* | Patricia Llewelyn<br>*QI Coordinator* |
| Patricia Dorsa<br>*Bookkeeper* | Joan Solanchick<br>*Executive Director* | |

### 3) Key Responsibilities

The project director was Joan Solanchick, who administered the contract, maintained external relations through ongoing communication with other agencies, state programs and the general public, and supervised daily operations.

Beverly Hoek, RN, CNN, is Quality Improvement Administrator with over twenty years experience in ESRD patient care. She monitors all quality improvement efforts, plans future project implementation and works with individual facilities.

June Chronic Huhn, RN, MPA, CNN and Patricia Llewelyn, RN, are Quality Improvement Coordinators, and in these positions they assisted with the conduct of improvement activities, monitored facilities, performed on-site visits, did clinical data review and responded to consumer problems.

June Chronic Huhn also served as Patient Services Coordinator and developed patient education material, resolved problems encountered by patients and provided staff support to the TARC Web site revision/updates.

Chris Brown developed data analysis and statistical reports. He assured computer support operations, validation, testing and design of special programs that implemented federal directives. Additionally, he trained facilities in the use of new federal VISION software use and implementation.

Accurate data analysis is based on careful processing, manual review and data entry. Cheryl Brown performed data entry, resolved discrepant reporting, monitored the accuracy and completeness of the database.

Tricia Phulchand monitored all project submissions as well as assisted in the implementation of facility transmission of VISION data and monitored complete and timely data submission.

These individuals provided the clinical and administrative expertise to assure reliability of statistical data and oversight of quality improvement activities.

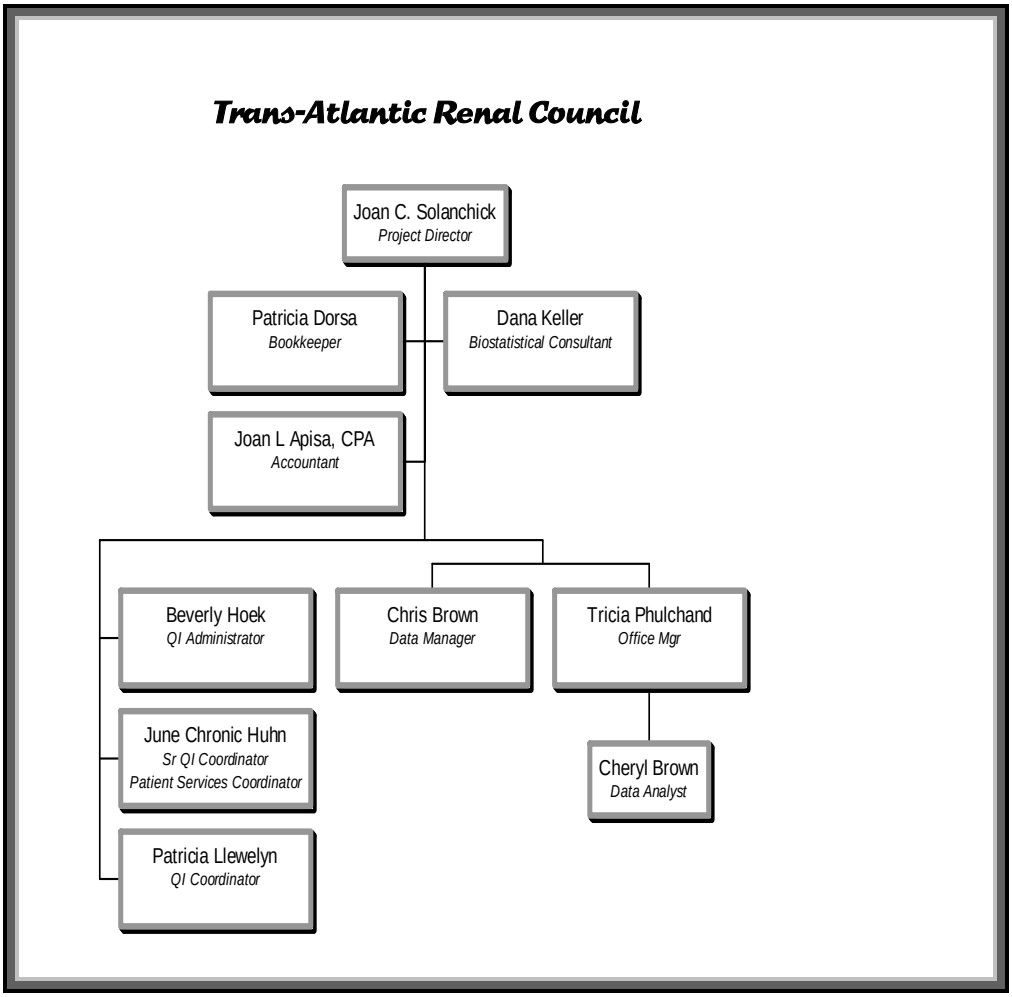
**OPERATIONS**

There are two major functions within the operation of the network: quality improvement and data management. It could be maintained that quality improvement is the sole function of the network and data analysis serves only to focus and measure the quality improvement function.

Quality improvement personnel were responsible for staffing the Medical Review Board and all related activities, the federal clinical performance measures project, local quality improvement activities and educational programming. Staff prepared draft material for review by the Medical Review Board, monitored developments in the field, reviewed reports submitted by each facility and analyzed comparative results. Facility site visits and regional training sessions were conducted when appropriate.

Data management personnel were responsible for all data input, report production, generation of diskettes and transmission of data to CMS. They subjected data to tests of statistical significance and interpreted results for clinical personnel as well as assisted in designing studies and producing reports.

Clerical personnel prepared documents, correspondence and general mailings as well as maintained files in a manner consistent with usual office practice.



Network staff conducted the ongoing collection and processing of data, review of compliance with federal requirements as well as network goals and objectives, and distribution of pertinent information to all ESRD facilities within the defined geographic region.

The Council of member facilities provided the direction for monitoring performance outcomes and measuring the quality and appropriateness of care. The Medical Review Board and the Board of Trustees provided invaluable advice and expertise to achieve improvements in patient care. In addition, a resource pool of knowledgeable ESRD consumers and other highly skilled clinical nephrology professionals (physicians, registered nurses, social workers and dietitians) was developed to act in a consulting role for periodic review of educational materials, special studies, core indicators and speakers at educational meetings.

This resource pool has been valuable in assisting staff to test new data requirements and changes in quality improvement activities, and to analyze the impact of advancing technology or areas of interest. All board and committee members serve voluntarily with no compensation.

**4) Committees**

The basic committee structure includes the Board of Trustees and the Medical Review Board. Other committees and subcommittees are established when the need arises. Currently, the Data Systems Implementation Committee is providing direction and oversight for Web site contents.

**5) Functional Description**

**Network Council**

The Council provided broad direction and guidance in the development of goals for self-care, transplant referrals and criteria selection for monitoring performance of providers and plans for improvement.

Representation on the Council was multidisciplinary, culled from professionals with demonstrated expertise in their specific field and representative of the geographic characteristics of the network.

The Trans-Atlantic Renal Council ('Council') was composed of thirty-three (33) regular members: twenty-four (24) from New Jersey, six (6) from Puerto Rico/Virgin Islands, and three (3) consumers. The formal Council representatives reflect the geographic area encompassed by the network as well as the various disciplines and types of facilities contained within the network. All Council members were selected from volunteers and approved by the Board of Trustees. Liaison members from governmental and voluntary agencies affiliated with the care of ESRD consumers were invited. Council meetings are open and a significant number of the renal community attends the annual meeting.

The geographic representation by discipline is illustrated below:

| North NJ | Central NJ | South NJ | Puerto Rico |
|---|---|---|---|
| 1 consumer | 1 consumer | 1 consumer | |
| 7 physicians | 3 physicians | 3 physicians | 3 physicians |
| 2 registered nurses | | 1 registered nurse | 2 registered nurses |
| 1 social worker | | 1 social worker | |
| 2 administrator | 1 administrator | 1 administrator | 1 administrator |
| | 1 dietitian | 1 dietitian | |

Council formal representation by type of facility follows:

| | New Jersey | Puerto Rico |
|---|---|---|
| Hospital-based | 7 | 2 |
| Non-profit satellite | 3 | |
| Corporate provider | 13 | 4 |
| Patients | 3 | |

Current members include:

Alexandre Ackad, MD
Charles Appel
Kevin Barber, MD
Mary Buckley, RN
Raphael Burgos Calderon, MD
Carol Cahill, MS, RN, CNN
John Capelli, MD
William Chenitz, MD
Debra DiNuzzo, RD
Luis Emanuelli, MHA
Paul Fine, MD
Noemi Figueroa, BSN
Melvin Goldblatt, MD
Stuart Homer, MD
Suzanne Juliano, RN
Toros Kapoian, MD
Linda Klein
Phyllis Leggett, MSW
Anita Lipman
Mary Lorenzo, MSW
Neil Lyman, MD
Phyllis Michelli, LCSW
Robert Motacki
Linda Powell, RD
Joel Notkin, MD
Robert Rigolosi, MD
Carlos Rivera Bermudez, MD
Paula Ruiz, RN
Marien Saade, MSN, CNN
Judith Scerbo
Richard Sherman, MD
Jorge Weber, MD
Ronald Zanger, MD

The Council met one time as allowed under contract. This meeting was used to discuss comparative data on local and national goals and provide educational programming on new technology and areas of interest. The meeting was held on November 16, 2005 at the Sheraton Woodbridge Place in Iselin, New Jersey. Topics and speakers were:

| | |
|---|---|
| *Council Activities* | Michael Conrad, MD<br>*Chairman, Medical Review Board* |
| *The National Response Plan* | Joseph Piccano, P.E.<br>Office of the Director<br>Region II FEMA |
| *Disaster Planning and Safety* | Mary Fenderson, RN, MS, QMC<br>Tom Bradsell<br>Rita Clymer<br>Sunsational Division DaVita |
| *Disaster Strikes: What We Learned* | Kelly Mayo, MS<br>*Executive Director*<br>*ESRD Network 7* |

An annual meeting highlight was the presentation of the *Ahmet B. Ahmet Award* to a consumer elected by the Boards from the many inspirational nominations submitted by facility staff.

Six posters prepared by New Jersey facilities were displayed at the annual meeting.

BMA-Elmwood Park DC — *Vascular Access*
Mary Ann Medalla Dumlas, BSN, RN, CNN
Patricia Gathers Jaffary, BSN, RN, CNN
Lori Celebioglu, PCT, Vascular Access Manager

DCI North Brunswick DC — *Individualizing Current Therapies and Products for Success At Home*
Kathy Searson, RN, BS, CNN
Barbara Calvanelli, RN, CNN
Virna De La Cruz, RN, CNN

DCI North Brunswick DC — *DCI North Brunswick Implements Fistula First Program*
Mary Lou Clancy, RN, CNN

| | |
|---|---|
| | Lisa Bross Gajary, LPN |
| Lillian Booth DC | *Smile Program: Dental Program for Dialysis Patients*<br>Kimberly Davis, RN, CNN |
| Morristown Memorial Hospital | *Access Surveillance*<br>Kathleen Vnenchak, RN, BSN<br>Maura Sundberg, RN, BSN, CNN |
| Robert W Johnson Univ Hosp | *The Effect of Acute Illness and Hospitalization On Anemia Management Of Patients On Chronic Hemodialysis*<br>Sarah Tomasello, PharmD, BCPS<br>Toros Kapoian, MD, Medical Director<br>Candice Wong, Pharmacy Student<br>Mary Barna, Doctor of Pharmacy Candidate (2005)<br>Garletha Allen, RN, BSN, CNN, DON<br>Robin Roberts, RN, CNN, PI Coordinator<br>Alison Trager, MS, RD, Renal Transplant Dietitian<br>Colleen Gallery, Dialysis Database Manager |

**MEDICAL REVIEW BOARD**

The Medical Review Board (MRB) evaluates the appropriateness of ESRD care, treatment procedures, and services delivered to ESRD consumers. The prescribed composition of the MRB is: (12) members and a chairperson from the following categories: a minimum of one physician board-certified in nephrology, an experienced nephrology registered nurse responsible for nursing services, a licensed renal social worker, a registered renal dietitian and a patient representative. All of the members are engaged in ESRD treatment.

The 2005 Medical Review Board was composed of one consumer, one registered dietitian, one social worker, one administrator, three registered nurses and five physicians. Three members were from Puerto Rico and the remainder were from New Jersey. The following chart illustrates the MRB's composition:

| Type of Facility | North NJ | Central NJ | South NJ | Puerto Rico |
|---|---|---|---|---|
| Hospital-based | 3 physicians | | 1 dietitian | |
| Non-profit satellite | | 1 administrator | | |
| Corporate provider | 1 physician<br>1 social worker<br>1 nurse | | 1 physician | 1 physician<br>2 nurses |
| Patient | | 1 patient | | |

The Board of Trustees accepted nominees for election to the Medical Review Board from the active organizational members. An individual must possess the qualifications and have demonstrated their ability to evaluate the quality and appropriateness of care delivered to ESRD to serve on the Medical Review Board.

The MRB has the responsibility for the development of criteria and standards for evaluation of care; review of facility protocols for patient modality selection; review of patient grievances as necessary according to standard procedures adopted by the Board; development of protocols for individual case review; evaluation of existing available services and recommendations for the addition of alternative services as needed; the analysis of facilities' compliance with network goals and recommendations for improvement.

No person serving on the MRB may have responsibility for review of any case in which he/she has, or had, any professional involvement, received reimbursement or supplied goods. No person serving on the MRB with a financial interest, direct or indirect, in a facility furnishing ESRD services may review the ESRD services of that facility. Confidentiality assurances are utilized by the MRB to protect the rights of consumers, providers, and facilities.

The activities of 2005 included reviewing facility-specific data, reports of the Clinical Performance Measures project, the lab data collection for the last quarter of 2004, the National Vascular Access Improvement Initiative, and other data from CMS. There were no patient grievances to review.

The MRB meeting dates and locations were:

| | |
|---|---|
| March 2, 2005 | Forsgate (Jamesburg, NJ) |
| June 8, 2005 | telephone conference call |
| September 7, 2005 | Forsgate (Jamesburg, NJ) |
| December 7, 2005 | telephone conference call |

**BOARD OF TRUSTEES**

The Board of Trustees ('Board') consisted of eleven (11) members. Upon resignation of a member, inability to complete a term of office, or non-attendance at two (2) consecutive board meetings, the position would be deemed vacant and would be filled by a new member selected by the president of the board. The new member then would serve for the unexpired term held by the member whose position he/she filled.

The Board elected from among its membership the following officers: president, vice president, secretary and treasurer. The president served as the president of the board and chairman of the Council, and monitored all network operations with the project director. The vice president presided or acted in the absence of the president. The secretary was responsible for keeping minutes of all board meetings and assured proper maintenance of all records and reports (except financial) for the Council. The treasurer was responsible for reporting the financial status and budget preparation of the Council.

The Board of Trustees was composed of one consumer, one dietitian, one social worker, one administrator, two nurses and five physicians. In order to more completely review vascular access a surgeon was invited to join the Board. One board member was from Puerto Rico and the remainder were from New Jersey. The chart below illustrates the Board's composition:

| Type of Facility | North NJ | Central NJ | South NJ | Puerto Rico |
|---|---|---|---|---|
| Hospital-based | 2 nurses<br>1 social worker | 1 physician | 1 physician | |
| Non-profit satellite | 1 physician | | | |
| Corporate provider | 1 admin | 1 physician | 1 dietitian | 1 physician |
| Patient | | | 1 patient | |

The election of officers took place at a regularly scheduled meeting of the Board. Election of officers was by simple majority of those members present and voting.

The Board monitored and directed the daily operation of the network organization. The board has the authority to:

- Employ and terminate any personnel required for the business of the network;
- Prepare a plan which defines network goals, objectives and implementation of objectives;
- Prepare an evaluation methodology to measure progress;
- Develop network operating and governing policies and procedures;
- Suggest alternative approaches to meeting goals and objectives for the network's consideration;
- Review and update the network plan on a regular basis;
- Review all fiscal matters of the network and review records on such matters which include, but are not limited to, the collection and disbursement of all funds;
- Certify the representatives for appointment to the Council, and keep up-to-date records of the membership of the Council;
- Appoint members and designated alternates to the Medical Review Board
- Review the By-Laws, amending them when necessary.

To further assure a broad perspective on appropriateness of care and outcome measurements, a transplant surgeon and board certified pediatric nephrologist may serve on the board or as a consultant to the board. These members are selected based on their expertise to further promote the goals and objectives of the network.

The Board of Trustees meeting dates and locations were:

March 23, 2005 - Amended to phone conference due to snow
June 22, 2005 - telephone conference call
September 21, 2005 - Forsgate (Jamesburg, NJ)
December 14, 2005 - telephone conference call

**DATA SYSTEM IMPLEMENTATION COMMITTEE**

This committee was formed in order to discharge the network's responsibility to assist facilities to provide efficient care by utilizing current technology. The TARC Web site was developed and maintained to educate consumers and the public, dialysis professionals, and translated into Spanish for the Hispanic communities of the network.

The Committee is comprised of a dietitian, dialysis technicians, nurses, an information technology coordinator and a social worker who helped to plan, organize, develop and evaluate the necessary components of TARC's web site. In 2005, the Data Committee reviewed all content and Web links were added as recommended and approved. Links and resources were researched for additions or deletions. Consumer and professional educational, transplantation links and the consumer medication links were reviewed and updated. Additions included pandemic flu information, disaster preparedness, kidney drug coverage information, and the National Kidney Disease Education Program web site. The committee reviewed the TARCWeb trends for the number of visitors and Web pages visited on the consumer and professional Web site.

The question and answer portion of the site allowed visitors to post ESRD-related questions. A wide variety of questions in both English and Spanish were answered by Medical Review Board members. The breadth of questions included many topics including but not limited to the following: peritoneal dialysis, vascular access, blood pressure, dry weight, dialysis medications, creatinine clearance, dialysis modalities, kidney diseases, diabetes, and transplantation.

The Committee was composed of three nurses, one social worker, one dietitian, and two technicians. The chart below illustrates the committee's composition:

| Type of Facility | North NJ | Central NJ | South NJ |
|---|---|---|---|
| Hospital-based | 1 nurse<br>1 technician | | |
| Non-profit satellite | | 1 technician<br>1 dietitian | |
| Corporate provider | 2 nurses | | 1 social worker |