Diabetes Hospitalization Report 2000

Pennsylvania Health Care
Cost Containment Council
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Diabetes 2000 Report

Foreword

More than 500,000 Pennsylvania residents have been diagnosed with diabetes, and several hundred thousand additional residents may also be suffering from diabetes, but have yet to be diagnosed.

Diabetes is a serious health concern that can be associated with severe complications. It can lead to work loss, disability, and premature death. In addition, diabetes exacts a hefty toll on the resources of the health care delivery system.

For people with diabetes, the key to a healthy life is to follow prescribed treatment plans involving nutrition, exercise, and medication. In order to help provide access to appropriate medical supplies and education for managing diabetes, Governor Thomas J. Ridge signed into law Act 98 in October of 1998. In reviewing the legislation that led to Act 98, the Pennsylvania Health Care Cost Containment Council (PHC4) noted its potential to prevent hospitalizations for diabetes if, as a result, more people comply with appropriate diabetes management. Act 98 mandates that private and group health insurance plans cover the cost of diabetic supplies such as insulin, blood glucose monitors, and testing strips used by people with diabetes to monitor and treat their disease. It also requires coverage for self-management training and nutritional counseling so that people with diabetes have the appropriate information to help them manage their disease.

This analysis is part of a commitment by PHC4 to track hospitalizations for diabetes after the enactment of Act 98. Because this law became effective during 1999, the calendar year of data examined here, this analysis may serve as a bench-

Key Findings

- Hospitalizations involving diabetes (principal and secondary diagnoses) rose almost 12% from 1995 to 1999, increasing from 242,017 to 270,474 hospitalizations. These hospitalizations represented 15.5% of all inpatient hospitalizations in 1999 – up from 13.6% in 1995.
- The *hospitalization rate* for admissions involving diabetes rose 12% – from 201 per 10,000 Pennsylvania residents in 1995 to 225 in 1999.
- In 1999, hospitalizations involving diabetes totaled 1.6 million hospital days. This represents 17.7% of all hospital days – up from 13.9% in 1995.
- Of the 270,474 hospitalizations involving diabetes, 21,149 were a *direct result of diabetes* (principal diagnosis) – an increase of 4% since 1995 when there were 20,279 of these hospitalizations.
- Total charges for hospitalizations that were a direct result of diabetes rose from $248.7 million in 1995 to $309.4 million in 1999.
- African Americans had the highest rate of hospitalization for diabetes, as well as the highest rates of lower extremity amputations and end-stage renal disease.
- The rate of hospitalization for diabetes has increased for middle-aged Pennsylvanians (ages 40 to 59). Hospitalization rates for lower extremity amputations have also increased among middle-aged residents.
- Overall, the increase in hospital admission rates shows that ongoing efforts to manage and treat diabetes are appropriate. PHC4 intends to continue to examine the topic of diabetes and plans to include it in its next report on Pennsylvania's HMOs.

What is Diabetes?

Diabetes is a chronic disease in which the body does not produce enough or properly use insulin – a hormone needed to convert blood sugar into energy. There are two main types of diabetes.

- Type 1 diabetes usually appears in children or young adults and accounts for 5% to 10% of all diagnosed cases of diabetes. With Type 1 diabetes, the body does not produce enough insulin, so people with Type 1 diabetes must receive daily insulin injections.
- Type 2 diabetes is the most common form of diabetes, estimated to account for about 90% to 95% of all diagnosed cases of diabetes. With Type 2 diabetes, the body is resistant to insulin and cannot use it properly. While most people with Type 2 diabetes control their disease through oral medications, diet, and exercise, the Centers for Disease Control and Prevention estimate that 40% of people with Type 2 diabetes require insulin injections.
- There is a third type of diabetes known as gestational diabetes. This develops in 2% to 5% of all pregnancies but the diabetes usually disappears when the pregnancy is over. In rare instances, other specific types of diabetes may also result from specific genetic syndromes, surgery, drugs, and other illnesses.

mark with which to compare future data, but cannot be directly attributed to the passage of Act 98.

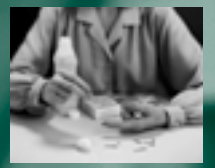
Why look at hospitalizations for diabetes?

In many ways, a hospitalization for diabetes or a complication of diabetes may represent a breakdown in diabetes care. While some hospitalizations for diabetes are expected, appropriate preventive care can minimize these admissions. By having easy access to appropriate medical supplies and educational resources, it was expected that people with diabetes would be better able to monitor their disease thus reducing the number of hospitalizations needed to treat diabetes.

It should be recognized that the components of Act 98 do not exist in a vacuum. Efforts have been undertaken by groups such as the Pennsylvania Department of Health, the American Diabetes Association, as well as individual Health Maintenance Organizations, hospitals, and physicians to educate people with diabetes about their disease and assist them with monitoring and treatment of their diabetes. In addition, the federally funded Medicare program has also expanded the benefits it offers to people with diabetes, and medical advancements such as the development of new medications have made great strides in the treatment of diabetes. Ultimately, while PHC4 is not able to directly attribute any changes in hospitalizations for diabetes to Act 98, trends before and after enactment of the mandate can be observed.

Diabetes cases on the rise

Examining changes in hospitalizations for diabetes is particularly important in light of recent information suggesting that diabetes is increasing substantially among adults in the United States. In August 2000, the Centers for Disease Control and Prevention (CDC) released figures that showed a 33% increase in the prevalence of diabetes among adults between 1990 and 1998. According to the CDC, diabetes among adults increased rapidly during the 1990s across all regions and demographic groups in the U.S. One of the driving forces be-



hind this drastic increase is the rise in obesity among Americans.

Of particular concern are the increases in diabetes among younger age groups. For example, among people aged 30 to 39, the CDC found a 70% increase in diabetes – more than twice the rate of increase in the general population. Because of the chronic nature of diabetes, the longer a person has the disease, the greater the likelihood of complications. Therefore, such significant changes among young and middle-aged people may have severe implications for the health care delivery system.

What is included in this report?

For the most part, this analysis examines hospitalizations where diabetes is the principal diagnosis, thereby focusing on admissions that are a direct result of diabetes. These hospitalizations are the main focus of this analysis because they are more likely to reflect any changes in diabetes care and management that have occurred since Act 98 took effect. While analysis of 1999 data is too early to track whether changes in hospitalizations have occurred since Act 98 was enacted, it can serve as a baseline for future analysis.

Data Notes

This report examines hospitalizations where the discharge occurred between January 1 and December 31, 1999.

Pennsylvania residents admitted to Pennsylvania hospitals are included in the analysis. Out-of-state residents hospitalized in Pennsylvania were not included because Act 98 would not apply to them. Pennsylvania residents hospitalized in another state are not included because PHC4 does not have access to that information.

The following ICD.9.CM codes (International Classification of Diseases, Ninth Revision, Clinical Modification) were used to identify hospitalizations with a diagnosis of diabetes: 250.*xy*; *where, x=0,1,2,3,4,5,6,7,8,9 and y=0,1,2,3.*

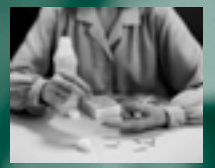
This analysis does not include data on patients treated in the physician's office, in an outpatient setting, or patients treated in the emergency department and then released. Further, these figures reflect hospitalizations, not persons. For example, if an individual was hospitalized on two separate occasions during this time period, they were counted twice.

The data were reported as submitted to PHC4 by the hospitals. If a hospital did not provide complete information, the number of hospitalizations would be undercounted.

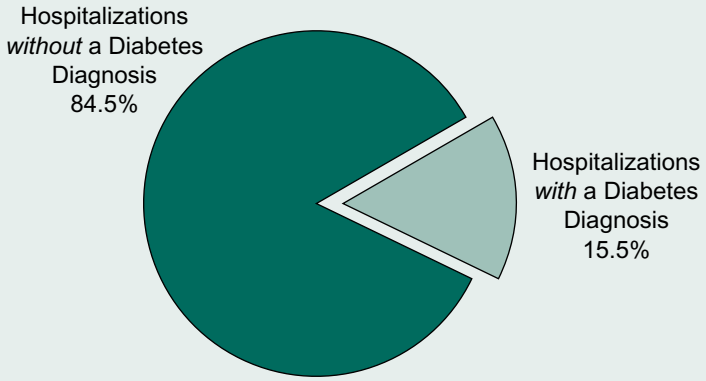
The hospital charges reported are charges associated with the entire hospitalization (not just the treatment associated with diabetes) and do not include physician fees. Further, while charges are a standard way of reporting data, they do not reflect the actual cost of the treatment, nor do they reflect the payment that the hospital may have actually received.

The Atlas severity score refers to a patient's level of illness upon admission to the hospital. These scores range from minimally sick (severity score = 0) to maximum probability of death (severity score = 4).

How many hospitalizations involve diabetes?



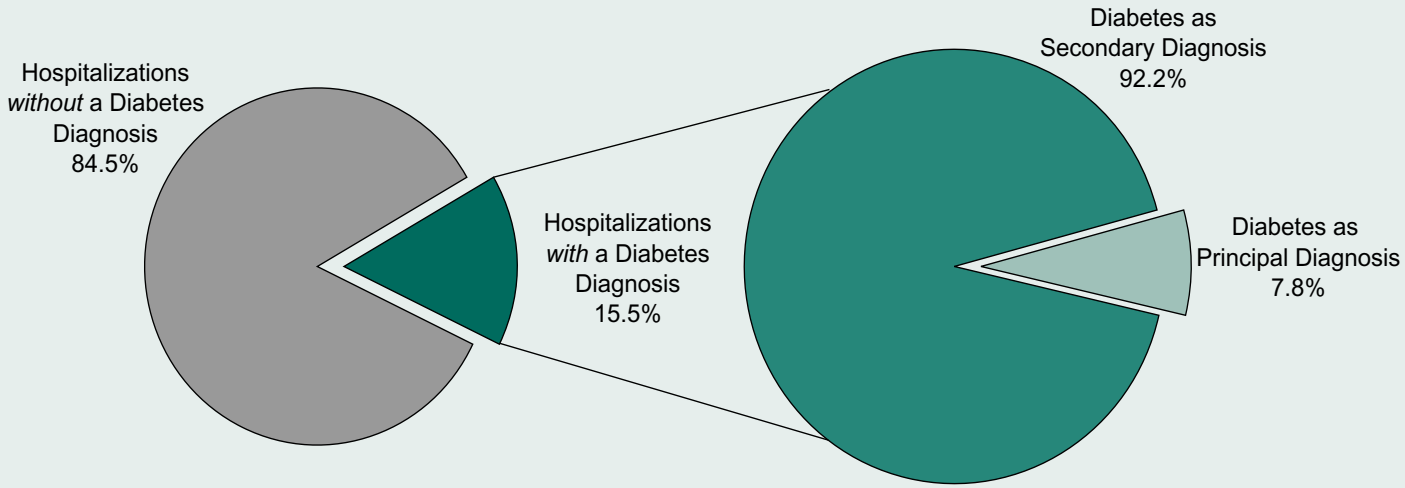
- In 1999, diabetes was the principal or secondary diagnosis in 15.5% of hospitalizations for Pennsylvania residents, up from 13.6% in 1995.
- This represents approximately 1 out of every 6 hospitalizations, or 270,474 of the 1,745,181 hospitalizations for Pennsylvania residents in 1999.



	Number	Percent
Hospitalizations *with* Diabetes Diagnosis	270,474	15.5
Hospitalizations *without* Diabetes Diagnosis	1,474,707	84.5
Total	1,745,181	100.0

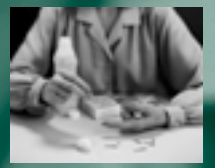
How do hospitalizations for diabetes differ?

- Of the 270,474 hospitalizations with a diabetes diagnosis, 7.8% had diabetes listed as the *principal* diagnosis, suggesting that the reason for the hospital admission was a direct result of diabetes. These hospitalizations are the main focus of this analysis because they are likely to be more immediately affected by changes in diabetes care and management.
- The remaining hospitalizations with a diabetes diagnosis had diabetes listed as a *secondary* diagnosis (92.2%). Diabetes listed as a secondary diagnosis means that the principal reason for admission to the hospital may or may not be a result of the diabetes. Such hospitalizations include those with long-term complications of diabetes (such as renal disease and heart disease).



Hospitalizations with…	Hospital Admissions		Hospital Days		Hospital Charges		Average Age
	number	percent	average length of stay	total number of days	average charge	total charges	
Diabetes as *Principal* Diagnosis	21,149	7.8	5.7	120,269	$14,631	$309,438,154	55.9
Diabetes as *Secondary* Diagnosis	249,325	92.2	6.0	1,506,773	$17,472	$4,356,160,330	68.3
Total	270,474	100.0	6.0	1,627,042	$17,250	$4,665,598,483	67.3

Diabetes-related Hospitalizations



- While not the focus of this analysis, hospitalizations with diabetes as a *secondary* diagnosis are important because they provide an overall picture of hospital admissions that involve a diabetes diagnosis – an indication of the magnitude of diabetes in Pennsylvania. Patients with diabetes as a secondary diagnosis are hospitalized for a wide variety of reasons, but some of the major reasons for admission include the long-term complications of diabetes (disease of the circulatory system, for example, which includes heart disease). The following chart shows, by "body system," why these people are being admitted to the hospital. Only the ten body systems with the highest number of admissions are individually displayed.

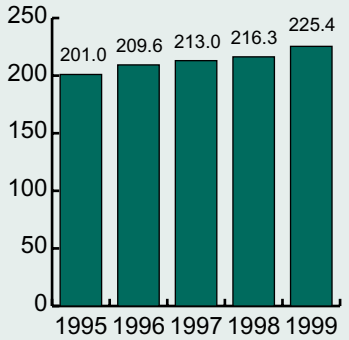
Hospitalizations where Diabetes was a Secondary Diagnosis

	Hospital Admissions		Hospital Days		Hospital Charges	
Hospitalizations relating to the…	number	percent	average length of stay	total number of days	average charge	total charges
Circulatory System	89,087	35.7	5.2	462,819	$19,665	$1,751,892,662
Respiratory System	29,135	11.7	6.8	197,814	$17,132	$499,136,639
Musculoskeletal System	20,954	8.4	6.5	136,389	$18,042	$378,046,257
Nervous System	20,853	8.4	6.6	137,947	$16,951	$353,475,774
Digestive System	20,169	8.1	5.7	115,619	$15,799	$318,649,202
Kidney & Urinary System	11,154	4.5	5.6	62,024	$14,911	$166,317,092
Skin, Subcutaneous Tissue & Breast	8,097	3.2	5.9	47,692	$12,104	$98,010,057
Infectious & Parasitic Diseases	7,496	3.0	7.8	58,169	$20,228	$151,628,848
Hepatobiliary System & Pancreas	7,054	2.8	6.2	43,672	$21,204	$149,571,826
Mental Diseases & Disorders	6,959	2.8	10.3	71,831	$12,413	$86,384,694
All Other Body Systems	28,367	11.4	6.1	172,797	$14,208	$403,047,278
Total	249,325	100.0	6.0	1,506,773	$17,472	$4,356,160,330

How have hospitalizations for diabetes changed over the past few years?

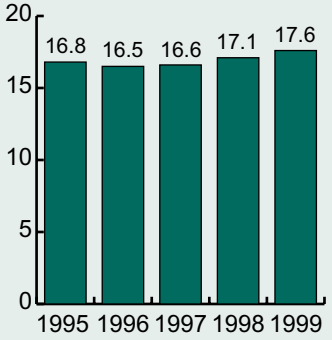
- In 1999, approximately 225 of every 10,000 Pennsylvania residents were hospitalized with a diagnosis of diabetes (either as a principal or secondary diagnosis). This represents an increase of 12.1% in the rate of these hospitalizations since 1995.

Hospitalization Rate for Diabetes - Principal or Secondary Diagnosis
(per 10,000 PA residents)



1995 N= 242,017
1996 N= 252,177
1997 N= 255,858
1998 N= 259,604
1999 N= 270,474

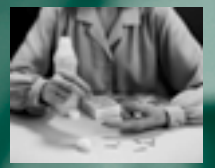
Hospitalization Rate for Diabetes - Principal Diagnosis Only
(per 10,000 PA residents)



1995 N= 20,279
1996 N= 19,807
1997 N= 19,924
1998 N= 20,552
1999 N= 21,149

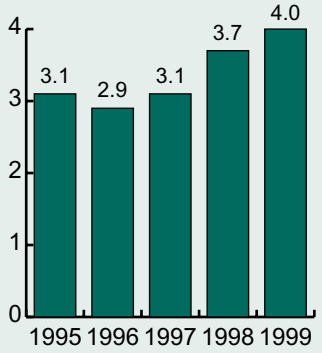
- After a slight decrease from 1995 to 1996, the rate of hospitalization where diabetes was the *principal* diagnosis increased each year through 1999. The overall change from 16.8 hospitalizations per 10,000 Pennsylvania residents in 1995 to 17.6 in 1999 represents an increase of 4.8% in the rate of these hospitalizations.

How have hospitalizations for diabetes changed over the past few years?



Hospitalizations where diabetes was the principal diagnosis can be broken down by important subsets. Examples include (1) where the principal diagnosis reflected diabetes without complications and (2) where the principal diagnosis was for short-term complications of diabetes.

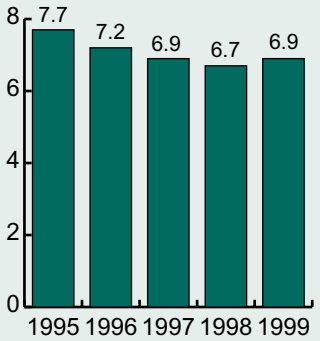
Hospitalization Rate for Diabetes without Complications - Principal Diagnosis Only
(per 100,000 PA residents)



1995 N= 378
1996 N= 347
1997 N= 374
1998 N= 447
1999 N= 486

- The rate of hospitalization for *diabetes without complications* decreased between 1995 and 1996, but has increased steadily since then. (Note that these rates are per *100,000* PA residents.) While the *number* of these hospitalizations is relatively small (486 hospitalizations in 1999), they may be of particular interest as possible targets in reducing the number of preventable hospitalizations.

Hospitalization Rate for Short-Term Complications of Diabetes - Principal Diagnosis Only
(per 10,000 PA residents)

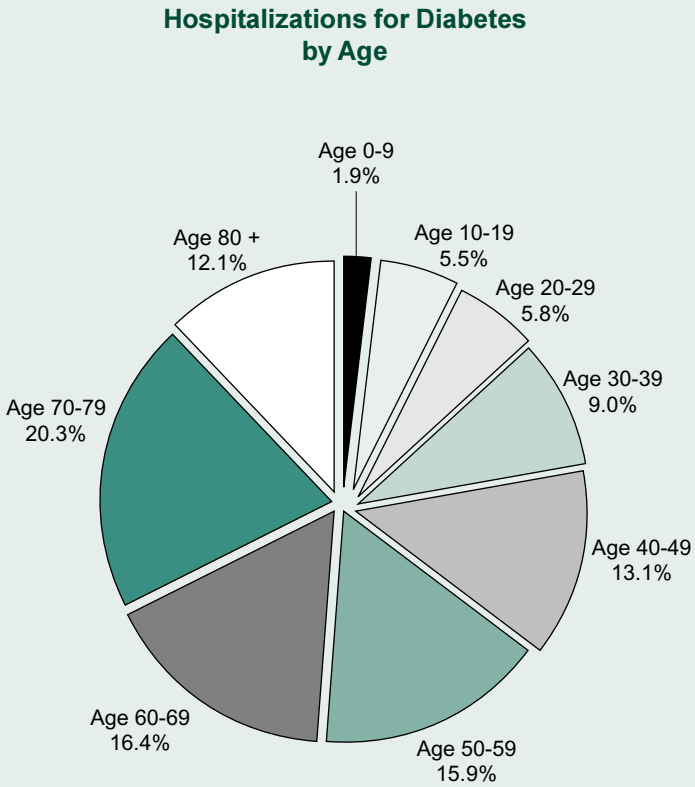


1995 N= 9,322
1996 N= 8,620
1997 N= 8,327
1998 N= 8,075
1999 N= 8,293

- Short-term complications of diabetes include acute, life-threatening events such as diabetic ketoacidosis and diabetic coma. Hospitalizations for these events might be an immediate reflection of how well patients are managing their diabetes. The hospitalization rate for these complications decreased from 1995 to 1998, but rose again in 1999. The overall result has been a net decrease of 10.4% in the rate of these hospitalizations since 1995.

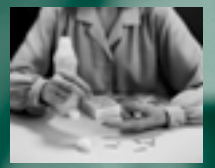
How do hospitalizations for diabetes differ by age group?

- In 1999, patients age 60 and over accounted for a large percentage (48.8%) of the hospitalizations for diabetes.



NOTE: Diabetes was the principal diagnosis of these hospitalizations.

How do hospitalizations for diabetes differ by age group?



- The hospitalization rate for diabetes increases with age.
- In general, older patients tended to have a longer average length of stay than their younger counterparts. People age 60 and over accounted for 58.2% of days and 52.7% of charges.

Hospitalizations for Diabetes, by Age

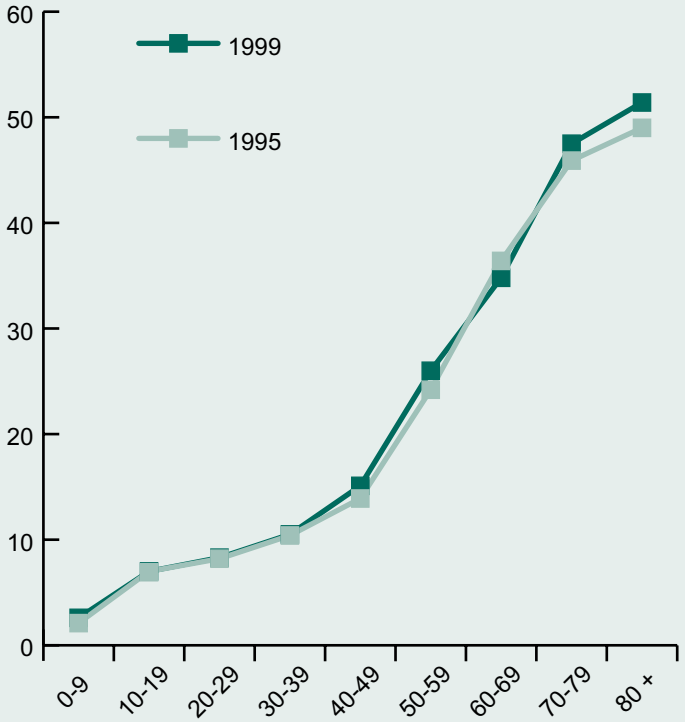
Age Category	Hospital Admissions		Hospitalization Rates (per 10,000 PA residents)		Hospital Days		Hospital Charges	
	number	percent	hospitalization rate 1995	hospitalization rate 1999	average length of stay	total number of days	average charge	total charges
0-9	395	1.9	2.1	2.6	2.9	1,153	$6,281	$2,481,126
10-19	1,157	5.5	7.0	7.0	2.6	2,954	$6,086	$7,041,565
20-29	1,234	5.8	8.2	8.3	3.1	3,797	$8,396	$10,360,322
30-39	1,909	9.0	10.4	10.5	4.0	7,651	$13,748	$26,244,106
40-49	2,774	13.1	13.9	15.1	5.1	14,187	$15,751	$43,694,117
50-59	3,362	15.9	24.2	26.0	6.1	20,501	$16,828	$56,574,129
60-69	3,466	16.4	36.4	34.8	6.6	23,031	$17,330	$60,066,160
70-79	4,296	20.3	45.9	47.5	6.9	29,582	$15,766	$67,731,223
80 +	2,556	12.1	49.0	51.4	6.8	17,413	$13,789	$35,245,405
Total	21,149	100.0	16.8	17.6	5.7	120,269	$14,631	$309,438,154

NOTE: Diabetes was the principal diagnosis of these hospitalizations.

How do hospitalizations for diabetes differ by age group?

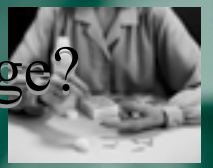
- There was little difference in hospitalization rates for people up through 39 years of age between 1995 and 1999. Beginning with age 40, the rate of hospitalization with a principal diagnosis of diabetes was higher in 1999 than in 1995 with the exception of the age 60-69 group. These changes may reflect recent findings of the Centers for Disease Control and Prevention which noted that diabetes is increasing at an alarming rate among young and middle-aged people.

Hospitalization Rate for Diabetes, by Age
Comparison between 1995 and 1999
(per 10,000 PA residents)

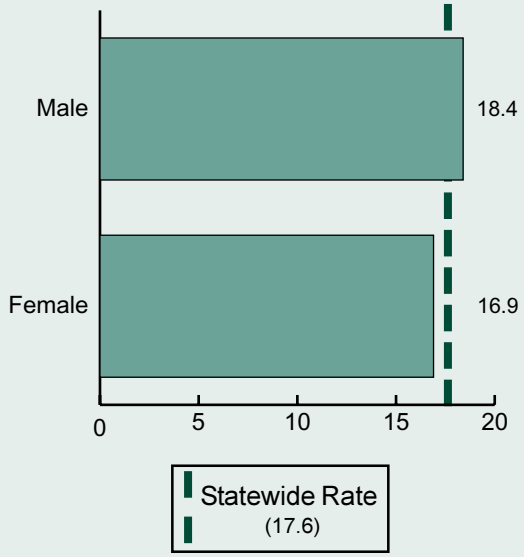


NOTE: Diabetes was the principal diagnosis of these hospitalizations.

How do hospitalizations for diabetes differ by gender and age?



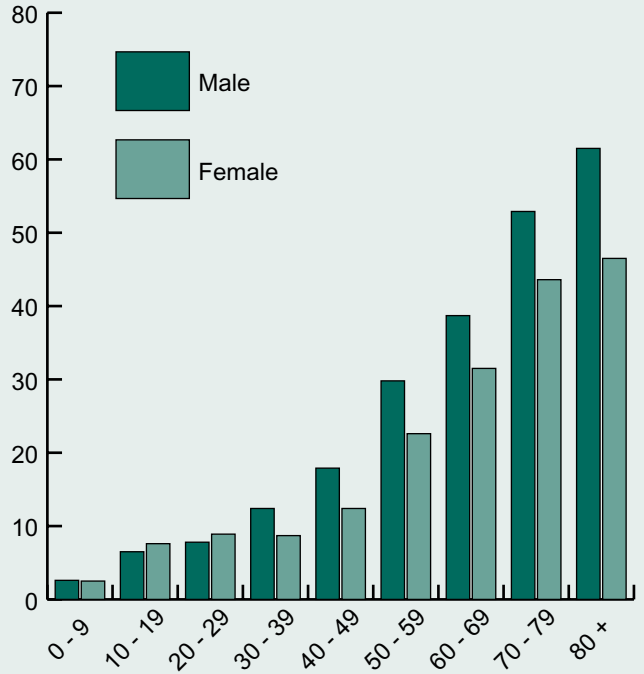
Hospitalization Rate for Diabetes, by Gender
(per 10,000 PA residents)



- Overall, males had a higher hospitalization rate for diabetes than females.

- There was, however, variation across age categories. Males had higher rates of hospitalization up to age nine and after age 29. Females had higher rates between ages 10 and 29.

Hospitalization Rate for Diabetes, by Gender and Age
(per 10,000 PA residents)

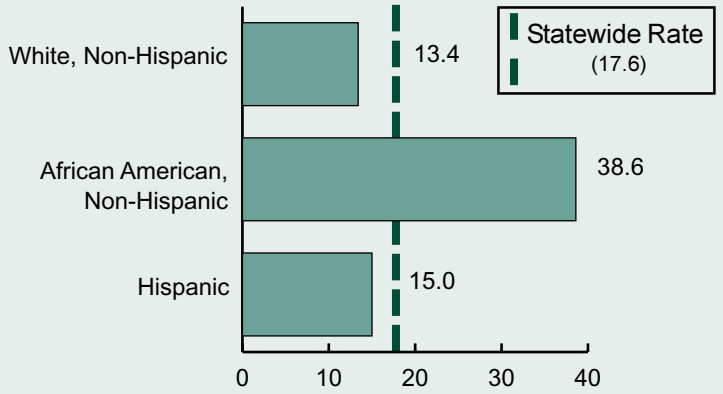


NOTE: Diabetes was the principal diagnosis of these hospitalizations.

How do hospitalizations for diabetes differ by race/ethnicity?

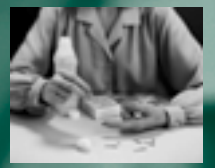
- The highest rate of hospitalization was among African American, non-Hispanic residents, with 38.6 of every 10,000 members of the population hospitalized with a principal diagnosis of diabetes. This hospitalization rate reflects the fact that non-Hispanic African Americans are more likely to have diabetes. According to the American Diabetes Association, they are 1.7 times as likely to have diabetes as non-Hispanic whites of similar age. Those of Hispanic origin are almost twice as likely to have diabetes as non-Hispanic whites of similar age.

Hospitalization Rate for Diabetes, by Race/Ethnicity
(per 10,000 PA residents)



NOTE: Diabetes was the principal diagnosis of these hospitalizations.

How do hospitalizations differ by payor type?



- Hospitals indicated that Medicare was the primary payor for almost half of the hospitalizations for diabetes (45.7%). Private insurers had the next highest percentage at 32.3%.

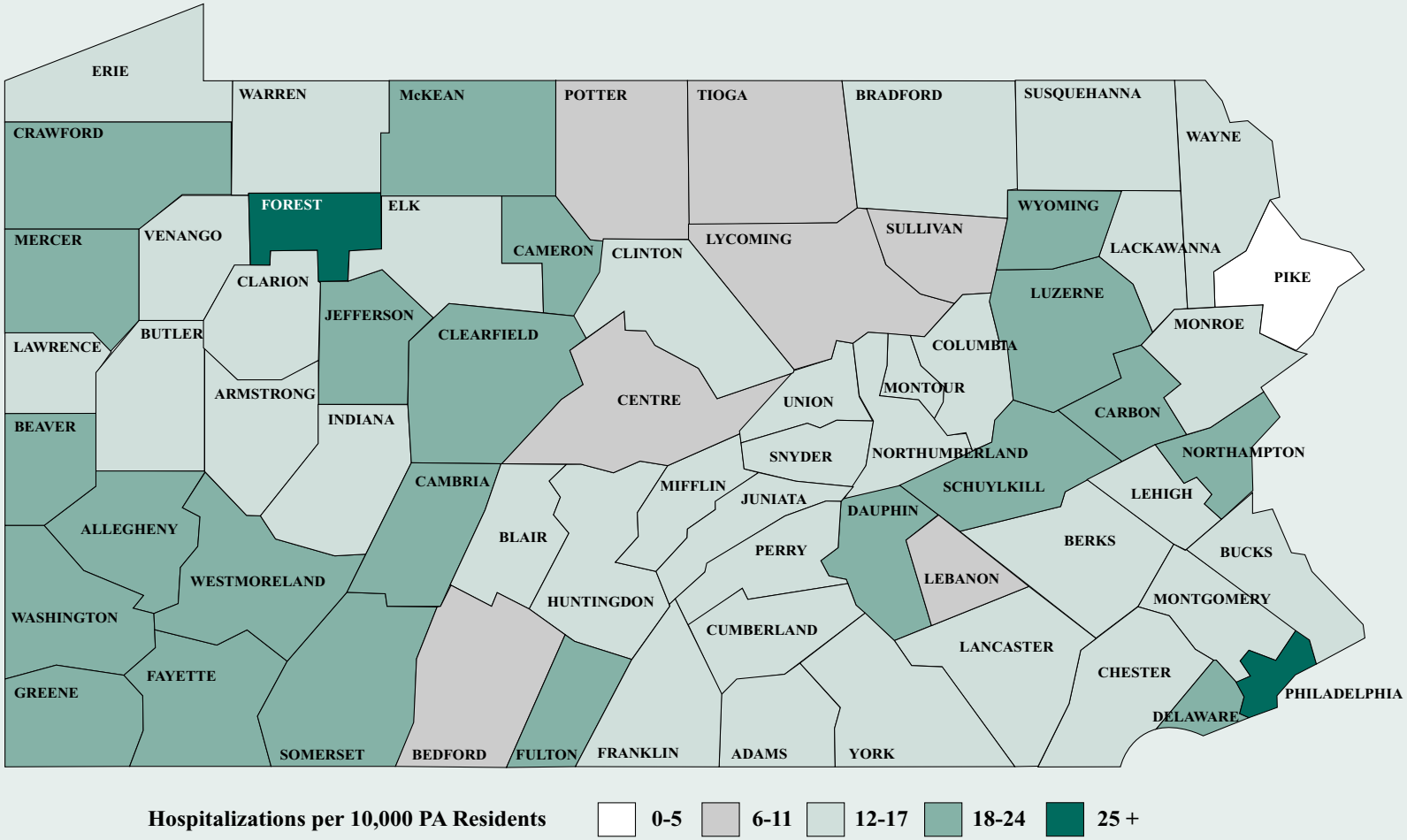
Payor	Hospital Admissions		Hospital Days		Hospital Charges		Average Age
	number	percent	average length of stay	total number of days	average charge	total charges	
Medicare	9,672	45.7	6.9	66,473	$16,110	$155,814,188	70.2
Medicaid	3,096	14.6	4.7	14,447	$12,179	$37,705,589	39.7
Private Insurers	6,824	32.3	4.7	32,272	$14,038	$95,796,762	45.4
Self	672	3.2	3.6	2,429	$9,103	$6,116,957	40.4
Other*	885	4.2	5.3	4,648	$15,824	$14,004,657	50.1
Total	21,149	100.0	5.7	120,269	$14,631	$309,438,154	55.9

* Includes employer-funded plans, other government payors, and hospitalizations where the payor was unknown or designation was invalid.

NOTE: Diabetes was the principal diagnosis of these hospitalizations.

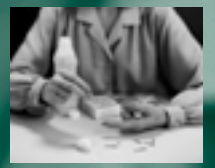
Hospitalization Rate for Diabetes, by County

(per 10,000 PA residents)



NOTE: Diabetes was the principal diagnosis of these hospitalizations.
Rates are adjusted for age and sex differences among county populations.
Source: PHC4 inpatient data and U.S. Census Bureau population estimates.

What about long-term complications of diabetes?



Complications from diabetes are often severe and can be life-threatening. The long-term complications of diabetes include heart disease, stroke, vision loss/blindness, amputation, and kidney disease.

While most of this report focuses on hospitalizations where diabetes was the principal diagnosis, this section (pages 17-23) includes hospitalizations where diabetes was either the principal or a secondary diagnosis. With long-term complications, diabetes is often a secondary diagnosis, so including both principal and secondary diagnoses allows for a complete counting of diabetes-related complications. For this analysis, patients with multiple complications are counted in each.

- Of the complications of diabetes, hospitalizations for lower extremity amputations (non-traumatic) had both the highest average charges ($31,514) and the longest average length of stay (11.0 days). The average age for these patients was 66.6 years.
- Hospitalizations for diabetes patients with end-stage renal disease amounted to 191,838 total days and over $585 million in hospital charges.
- Patients hospitalized for stroke had the highest in-hospital mortality rate.
- Heart disease accounted for the largest number of hospitalizations.

The following pages provide additional analyses on two of these complications: lower extremity amputations and end-stage renal disease (also known as kidney failure).

Complications	Hospital Admissions	Hospital Days		Hospital Charges		% In-Hospital Mortality	Average Age	Average Severity*
		average length of stay	total number of days	average charge	total charges			
Lower Extremity Amputation	5,271	11.0	58,063	$31,514	$166,108,122	3.2	66.6	1.9
End-Stage Renal Disease	25,550	7.5	191,838	$22,909	$585,334,391	5.8	64.4	2.1
Eye Disease	12,187	6.6	79,852	$18,727	$228,220,140	2.3	61.7	1.8
Neurologic Complications	25,401	7.2	183,014	$18,234	$463,169,874	2.2	64.6	1.8
Heart Disease	144,269	6.0	868,364	$18,664	$2,692,614,327	3.9	70.9	1.9
Stroke	14,651	7.7	112,227	$18,397	$269,538,120	6.7	72.3	2.1
Other Vascular Disease	34,862	7.6	265,041	$21,063	$734,294,552	3.5	68.8	1.9

* as defined by CIC/MediQual Atlas™ severity score (See Data Notes, Page 4)

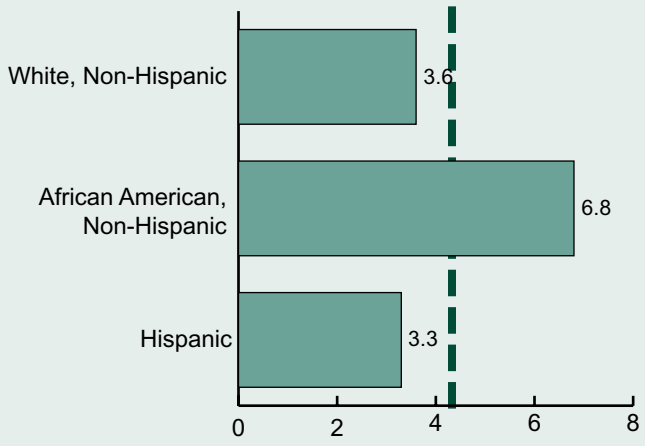
Lower Extremity Amputations

Diabetes is the leading cause of non-traumatic lower extremity amputations in the United States. According to the Centers for Disease Control and Prevention, over half of these amputations could be prevented.

- The amputation rate was higher among men than women.
- The highest amputation rate was among African American, non-Hispanic residents. These figures support findings from the American Diabetes Association suggesting that this population is 1.5 to 2.5 times more likely to undergo lower limb amputations.

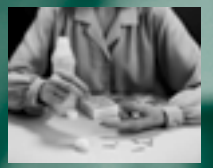
Hospitalization Rate for Lower Extremity Amputations, by Gender
(per 10,000 PA residents)

Hospitalization Rate for Lower Extremity Amputations, by Race/Ethnicity
(per 10,000 PA residents)

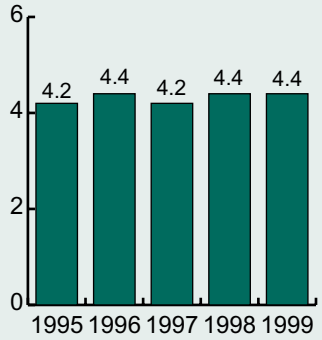


Statewide Rate (4.4)

Lower Extremity Amputations



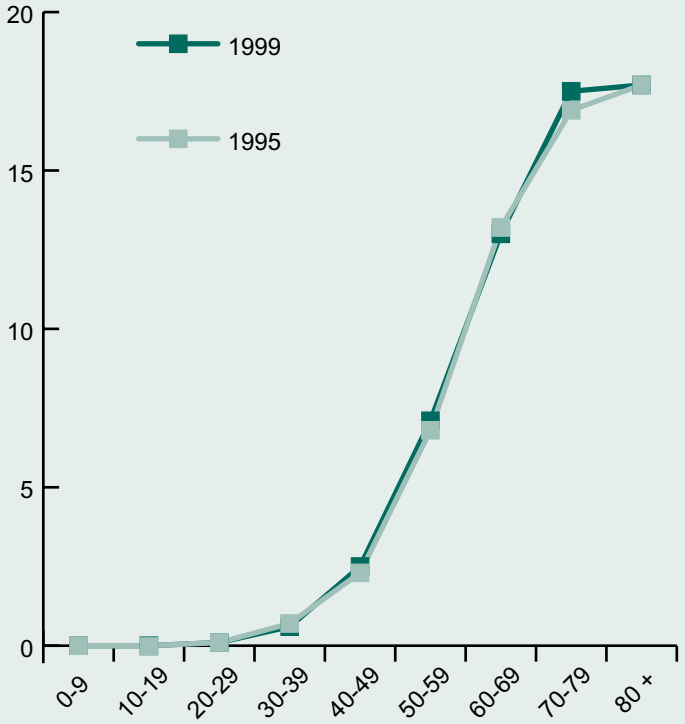
Hospitalization Rate for Lower Extremity Amputations, by Year
(per 10,000 PA residents)



1995 N= 5,080
1996 N= 5,302
1997 N= 5,019
1998 N= 5,318
1999 N= 5,271

- In 1999, 4.4 of every 10,000 Pennsylvanians were hospitalized for a lower extremity amputation – a rate that has remained relatively constant over the past few years.

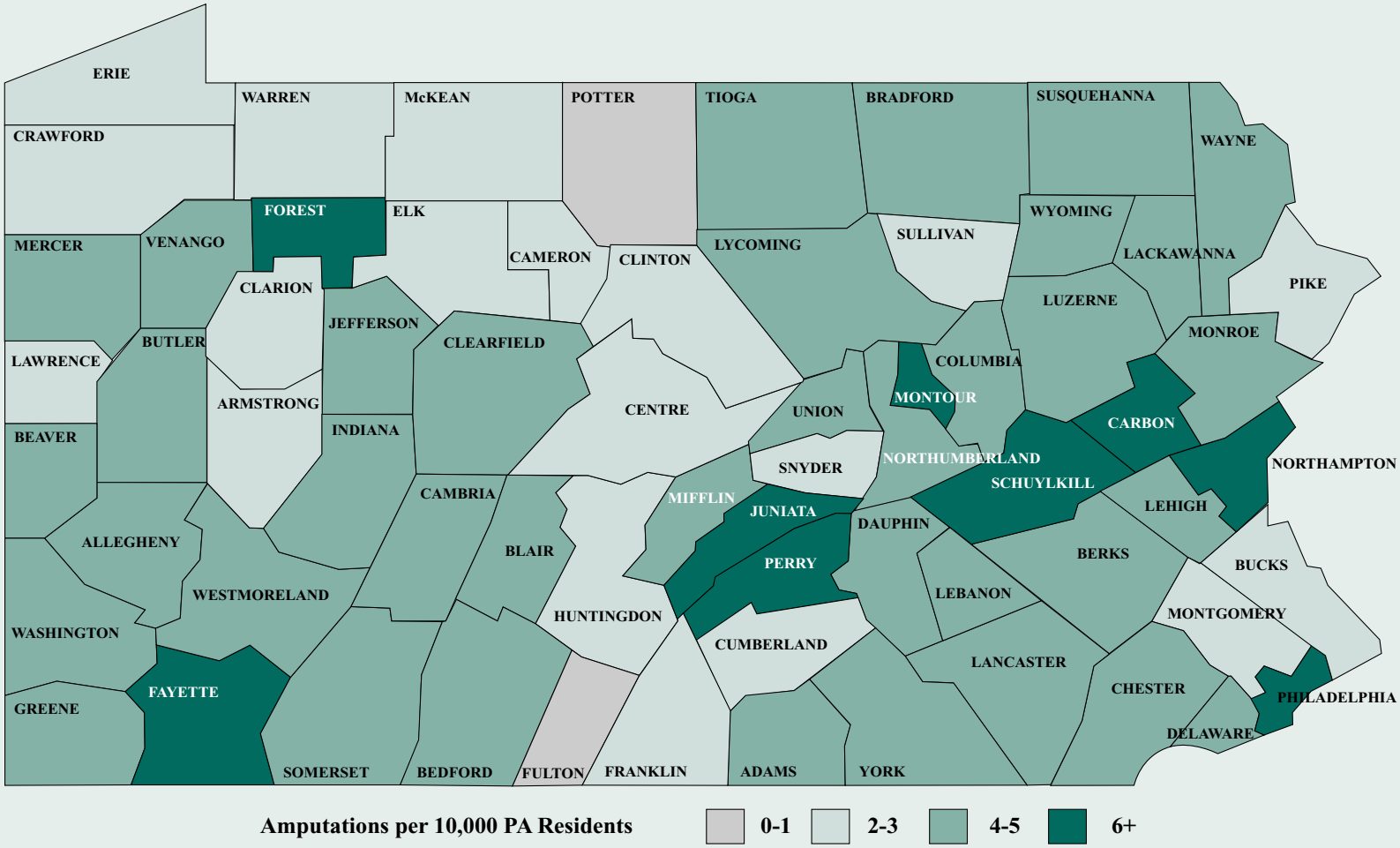
Hospitalization Rate for Lower Extremity Amputations, by Age Comparison between 1995 and 1999
(per 10,000 PA residents)



- The rate of lower extremity amputation increases with age.
- For residents between the ages of 40-49, 50-59, and 70-79, the hospitalization rate for lower extremity amputations was higher in 1999 than it was in 1995.

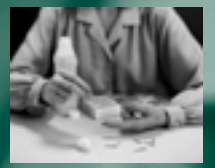
Lower Extremity Amputations

Hospitalization Rate for Lower Extremity Amputations, by County
(per 10,000 PA residents)



Rates are adjusted for age and sex differences among county populations.
Source: PHC4 inpatient data and U.S. Census Bureau population estimates.

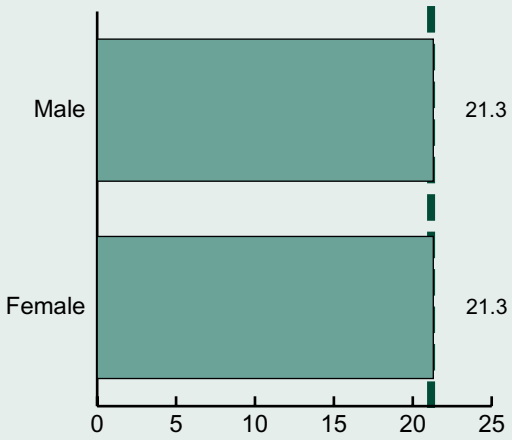
End-Stage Renal Disease



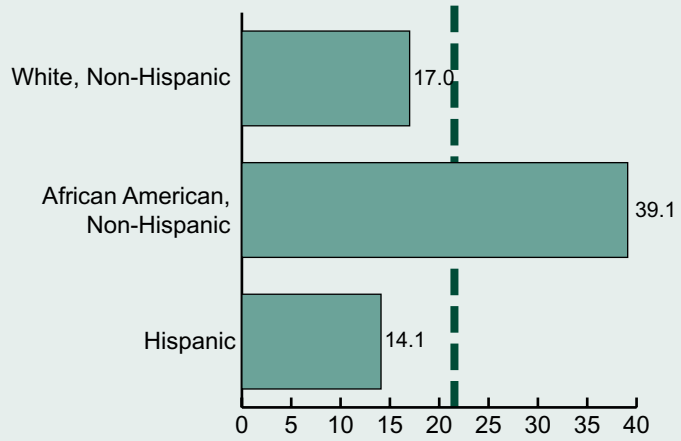
Diabetes is the leading cause of end-stage renal disease and accounts for about 40% of new cases. In Pennsylvania, it is estimated that over 1,000 new cases of end-stage renal disease related to diabetes are diagnosed each year.

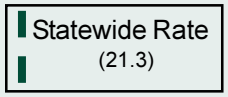
- Men and women have equal rates of hospitalization involving diabetes and end-stage renal disease.
- The highest rate was among African American, non-Hispanic residents. According to the American Diabetes Association, African Americans with diabetes are 2.6 to 5.6 times more likely to suffer from kidney disease.

Hospitalization Rate for End-Stage Renal Disease, by Gender
(per 10,000 PA residents)



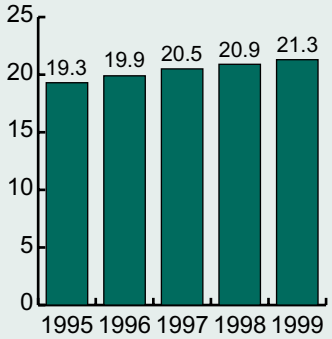
Hospitalization Rate for End-Stage Renal Disease, by Race/Ethnicity
(per 10,000 PA residents)





End-Stage Renal Disease

Hospitalization Rate for End-Stage Renal Disease, by Year
(per 10,000 PA residents)

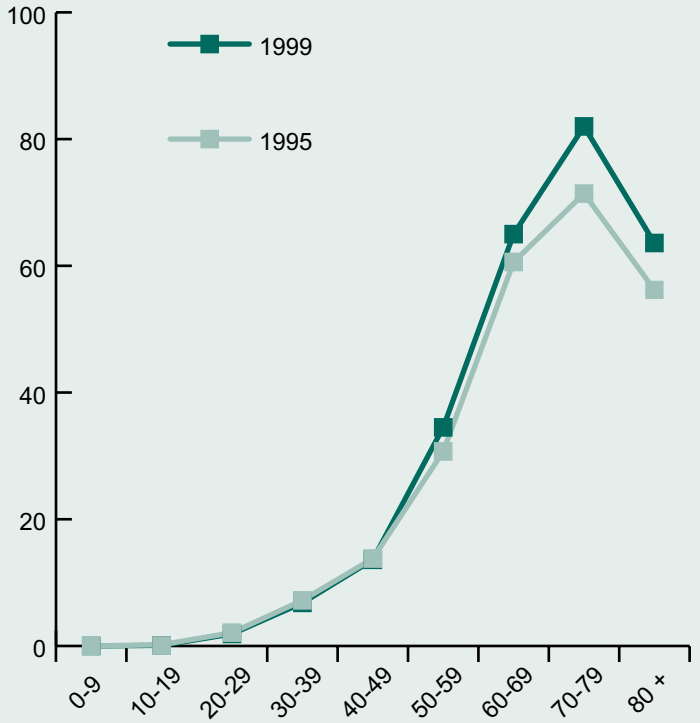


1995 N= 23,242
1996 N= 24,001
1997 N= 24,641
1998 N= 25,063
1999 N= 25,550

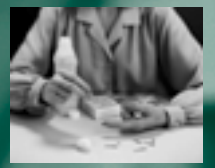
- In general, the rate of hospitalization for end-stage renal disease increases with age. Beginning at age 50, hospitalization rates were higher in 1999 than they were in 1995.

- In 1999, 21.3 of every 10,000 Pennsylvanians were hospitalized for end-stage renal disease with either a principal or secondary diagnosis of diabetes – a rate that has increased steadily since 1995.

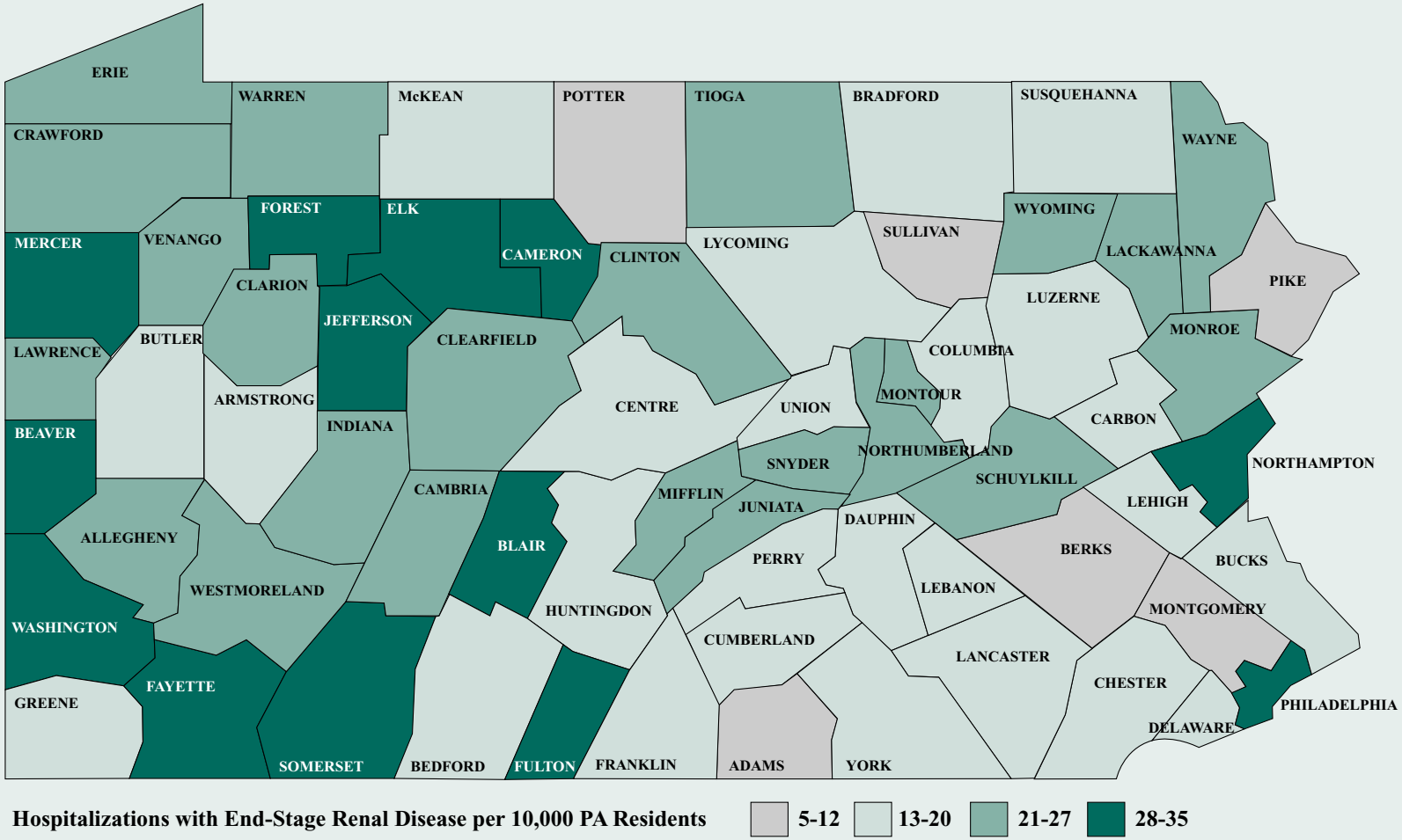
Hospitalization Rate for End-Stage Renal Disease, by Age Comparison between 1995 and 1999
(per 10,000 PA residents)



End-Stage Renal Disease



Hospitalization Rate for End-Stage Renal Disease, by County
(per 10,000 PA residents)



Hospitalizations with End-Stage Renal Disease per 10,000 PA Residents 5-12 13-20 21-27 28-35

Rates are adjusted for age and sex differences among county populations.
Source: PHC4 inpatient data and U.S. Census Bureau population estimates.

FOR MORE INFORMATION...

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Harrisburg, PA 17101

Phone 717-232-6787

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Marc P. Volavka
Executive Director

The Pennsylvania Health Care Cost Containment Council (PHC4) was established as an independent state agency by the General Assembly and the Governor of the Commonwealth of Pennsylvania in 1986. To help improve the quality and restrain the cost of health care, PHC4 promotes health care competition through the collection, analysis and public dissemination of uniform cost and quality-related information.

PHC4 has released other reports on diabetes including *Hospital Performance Reports* and *The Role of HMOs in Managing Diabetes*. These reports can be found on PHC4's web site.