

Improving Ohio's Health: Controlling Diabetes and Hypertension

Ohio Hospital Inpatient Discharges for Diabetes and Hypertension¹

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This article is the first in a series devoted to diabetes and hypertension in Ohio and the prevalence of these chronic conditions. It explores efforts to quantify the impact of these two conditions on inpatient rates in Ohio counties.

Healthcare providers are inundated with statistics about the prevalence of diabetes and hypertension in the United States. Patients with chronic diseases drive the costs in the American healthcare system, both inpatient and ambulatory. About 86% of the United States annual healthcare spending is related to chronic diseases.² According to a 2012 report by the American Diabetes Association, the total economic cost of diabetes in the United States was \$245 billion with Ohio accounting for \$9.3 billion of those costs.³ In 2013, 921,012 people in Ohio were diagnosed with diabetes, ranking Ohio seventh among all states in number of people with diabetes.⁴

Centers for Disease Control and Prevention (CDC) Funding to Comprehensively Address Chronic Disease

To more effectively manage these chronic conditions and reduce their prevalence in the population, CDC has funded two grant programs through 2018 with state health departments across the country. These grants support population-wide approaches to prevent obesity, diabetes, heart disease and stroke and to reduce the disparities in priority populations. All states received initial funding in 2013 to support state-level activities.⁵ In 2014, 17 states, including Ohio, were competitively awarded additional funds to support a broad scale multi-year initiative at the state and local levels.⁶ Both grants contain strategies to support the use of health information technology to improve performance and increase the implementation of quality improvement processes in health systems.

The second CDC grant received by Ohio takes a more in-depth local look at prediabetes screening and various other strategies to improve obesity, diabetes, heart disease and stroke outcomes in selected communities. The counties that are part of this more targeted grant are Athens, Lorain, Montgomery, Richland, Summit and Washington. In these counties, ODH is providing support to county health departments to increase residents' opportunities for physical activity and access to healthy foods, as well as participation in lifestyle change programs (such as the National Diabetes Prevention Program). For providers, the grants are designed to improve the use of electronic health systems for quality data monitoring and reporting of diabetes and hypertension related conditions. The work on these two grants reflects in part the Centers for Medicare and Medicaid Services' (CMS) premise that there is a close relationship between what occurs in the community setting and the inpatient setting.

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² Gerteis J, Izrael D, Deitz D, LeRoy L, Ricciardi R, Miller T, Basu J. [Multiple Chronic Conditions Chartbook](#). [PDF - 10.62 MB] AHRQ Publications No, Q14-0038. Rockville, MD: Agency for Healthcare Research and Quality; 2014. Accessed November 18, 2014.

³ American Diabetes Association, "Economic Costs of Diabetes in the United States in 2012," *Diabetes Care*, March 6, 2013.

⁴ Centers for Disease Control and Prevention. Division of Diabetes Translation. US Diabetes Surveillance System(<http://www.cdc.gov/diabetes/data/index.html>). Available at <http://www.cdc.gov/diabetes/data>.

⁵ CDC-RFA-DP13-1305: State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associated Risk Factors and Promote School Health.

⁶ CDC-RFA-DP14-1422: State and Local Public Health Actions to Prevent Obesity, Diabetes, Heart Disease and Stroke.

The work of these CDC grants can ultimately contribute to reducing the rate of inpatient admissions for patients with hypertension and/or diabetes.

Ohio Data on Hypertension and Diabetes in the Hospital Setting

Diabetes and hypertension data from all 88 Ohio counties were compiled from two areas: 1) hospital inpatient rates of admissions for patients with diabetes or hypertension; and, 2) ambulatory quality data that tracks HgA1c and blood pressure. These de-identified data were aggregated and reported by county.

The hospital data are displayed at the county level for inpatient discharges where either hypertension, diabetes or both conditions appeared on the patient’s problem list. The Ohio Health Information Partnership obtained data from the Ohio Hospital Association and individual hospitals around the state.

In Ohio, out of the 1.1 million inpatient hospital discharges in 2014, nearly 6 out of every 10 discharged patients had hypertension in their problem list. Four out of every 10 patients had diabetes listed. The county with the highest percent of discharges related to diabetes was Jackson County (53.1%). Washington County was the highest county for inpatient discharges linked to hypertension (66.5%). The percent of inpatient discharges for diabetes and hypertension are listed in Table 1 for all Ohio counties:

Table 1: 2014 HOSPITAL INPATIENT DATA ON DIABETES AND HYPERTENSION DISCHARGES IN OHIO, BY COUNTY
(A map showing the data by region is included on the last page of this document)

Counties	Diabetes as % of Total Inpatient Discharges	Hypertension as % of Total Inpatient Discharges	Counties	Diabetes as % of Total Inpatient Discharges	Hypertension as % of Total Inpatient Discharges
Average for All Ohio Counties	43.1%	56.2%			
Adams	48.0%	62.2%	Licking	41.6%	51.9%
Allen	46.2%	56.9%	Logan	40.5%	55.6%
Ashland	44.8%	62.7%	Lorain	43.8%	58.9%
Ashtabula	45.1%	57.9%	Lucas	45.0%	55.9%
Athens	47.6%	60.3%	Madison	45.1%	59.7%
Auglaize	40.3%	54.6%	Mahoning	46.3%	57.9%
Belmont	46.5%	59.5%	Marion	49.8%	61.3%
Brown	48.8%	60.4%	Medina	38.2%	55.0%
Butler	43.7%	57.0%	Meigs	49.4%	60.9%
Carroll	46.0%	61.2%	Mercer	40.3%	55.2%
Champaign	46.1%	61.0%	Miami	41.2%	52.0%
Clark	49.0%	62.4%	Monroe	43.5%	63.7%
Clermont	42.1%	56.1%	Montgomery	43.6%	55.5%
Clinton	42.4%	53.3%	Morgan	49.4%	64.0%
Columbiana	46.9%	58.3%	Morrow	43.7%	61.6%
Coshocton	45.7%	60.5%	Muskingum	45.2%	61.2%
Crawford	49.7%	60.5%	Noble	46.2%	62.9%
Cuyahoga	42.9%	55.6%	Ottawa	43.9%	60.2%
Darke	39.0%	51.8%	Paulding	46.5%	54.5%
Defiance	45.0%	53.9%	Perry	41.8%	57.0%
Delaware	34.2%	52.2%	Pickaway	45.4%	57.8%
Erie	44.9%	59.8%	Pike	50.5%	59.8%
Fairfield	42.8%	56.0%	Portage	40.2%	57.0%
Fayette	47.4%	59.2%	Preble	45.1%	57.9%
Franklin	39.8%	51.8%	Putnam	35.6%	51.9%
Fulton	42.7%	54.2%	Richland	45.1%	60.4%
Gallia	45.8%	57.4%	Ross	45.7%	55.2%
Geauga	34.0%	55.0%	Sandusky	45.3%	57.1%

Counties	Diabetes as % of Total Inpatient Discharges	Hypertension as % of Total Inpatient Discharges	Counties	Diabetes as % of Total Inpatient Discharges	Hypertension as % of Total Inpatient Discharges
Greene	43.3%	54.9%	Scioto	51.3%	64.4%
Guernsey	48.2%	63.9%	Seneca	42.1%	53.2%
Hamilton	41.4%	53.1%	Shelby	37.3%	52.0%
Hancock	37.4%	50.3%	Stark	43.9%	57.7%
Hardin	45.9%	61.9%	Summit	42.7%	58.0%
Harrison	45.8%	59.1%	Trumbull	45.4%	57.3%
Henry	42.8%	55.8%	Tuscarawas	46.0%	60.2%
Highland	44.1%	55.3%	Union	43.0%	55.4%
Hocking	43.9%	54.5%	Van Wert	42.6%	52.1%
Holmes	40.9%	54.7%	Vinton	52.7%	63.2%
Huron	43.6%	55.0%	Warren	36.7%	51.1%
Jackson	53.1%	64.6%	Washington	50.0%	66.5%
Jefferson	48.8%	60.0%	Wayne	42.7%	58.8%
Knox	42.6%	58.5%	Williams	39.5%	47.5%
Lake	43.0%	59.3%	Wood	41.9%	52.6%
Lawrence	47.4%	57.4%	Wyandot	38.7%	49.6%

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Ohio Hospital Association Source: OHA Statewide Clinical and Financial Database

By aggregating the data by region, a clearer picture emerges of variations around the state. As shown in Table 2, the region with the lowest percent of inpatient discharges that are linked to patients with either diabetes or hypertension is the **Southwest** region. This region (which includes Cincinnati) has only 41.7% of its discharges linked to diabetes (compared to the statewide average of 43.1%) and 54.4% of its discharges are linked to hypertension (statewide average 56.2%). The **Southeast** region has the highest rates of diabetes and hypertension among inpatient discharges (47.3% and 60.4%, respectively).

Table 2: 2014 HOSPITAL INPATIENT DATA ON DIABETES AND HYPERTENSION DISCHARGES IN OHIO, BY GEOGRAPHIC REGION

Totals for Ohio Regions	Total Inpatient Discharges	Total Inpatient Discharges Where Diabetes Was Listed	% Inpatient Discharges Where Diabetes Was Listed	Total Inpatient Discharges Where Hypertension Was Listed	% Inpatient Discharges Where Hypertension Was Listed
Ohio	1,122,047	484,013	43.1%	630,099	56.2%
Southeast Region: (Adams, Athens, Belmont, Carroll, Coshocton, Gallia, Guernsey, Harrison, Highland, Hocking, Holmes, Jackson, Jefferson, Lawrence, Meigs, Monroe, Morgan, Muskingum, Noble, Perry, Pike, Ross, Scioto, Vinton, Washington)	96,217	45,545	47.3%	58,143	60.4%
Southwest Region: (Brown, Butler, Clermont, Hamilton, Warren)	153,982	64,268	41.7%	83,710	54.4%
West Central Region:	123,749	54,077	43.7%	69,315	56.0%

<i>Totals for Ohio Regions</i>	Total Inpatient Discharges	Total Inpatient Discharges Where Diabetes Was Listed	% Inpatient Discharges Where Diabetes Was Listed	Total Inpatient Discharges Where Hypertension Was Listed	% Inpatient Discharges Where Hypertension Was Listed
<i>(Auglaize, Champaign, Clark, Clinton, Darke, Fayette, Greene, Mercer, Miami, Montgomery, Preble, Shelby)</i>					
Northwest Region: <i>(Allen, Crawford, Defiance, Fulton, Hancock, Hardin, Henry, Lucas, Ottawa, Paulding, Putnam, Sandusky, Seneca, Van Wert, Williams, Wood, Wyandot)</i>	127,843	56,261	44.0%	70,747	55.3%
Northeast Region: <i>(Ashland, Ashtabula, Columbiana, Cuyahoga, Erie, Geauga, Huron, Lake, Lorain, Mahoning, Medina, Portage, Richland, Stark, Summit, Trumbull, Tuscarawas, Wayne)</i>	441,298	191,070	43.3%	252,679	57.3%
Central Region <i>(Delaware, Fairfield, Franklin, Knox, Licking, Logan, Madison, Marion, Morrow, Pickaway, Union)</i>	178,958	72,792	40.7%	95,505	53.4%

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Ohio Hospital Association Source: OHA Statewide Clinical and Financial Database

A significant rate of diabetes and hypertension was also identified among people who use Emergency Department (ED) services. For the state of Ohio, the average number of patients with diabetes who utilized the ED was 13.8%. The average number of patients with hypertension who utilized the ED was 22.6%.

[Identifying Individuals with Two or More Chronic Conditions](#)

One in four Americans have two or more chronic conditions.⁷ It is important to note, too, that a significant number of hospital admissions and ED visits are linked to patients who have both diabetes and hypertension. In Ohio, 15.1% of all inpatient discharges involve patients who have both diabetes and hypertension. This is important information for providers in Ohio to know because CMS has focused its attention on providing increased care to patients who have two or more chronic conditions. Reflecting this fact, CMS has focused much of its new payment reform models on the management of these two conditions. Within the past two years, CMS has established a new billing code for chronic care management (**99490**) that permits practices to bill for time spent managing a patient's care between visits. Chronic care coding is in addition to the transitional care management codes that allow a practice to bill a higher level of visit within two weeks post-discharge. (**99495 and 99496**). The second article to be published in this series: [New Approaches to Managing Chronic Conditions](#), will discuss how these codes can be used to assist practices in managing patient care in the ambulatory setting.

⁷ Ward BW, Schiller JS, Goodman RA. Multiple chronic conditions among US adults: a 2012 update. *Prev Chronic Dis.* 2014;11:130389. DOI:<http://dx.doi.org/10.5888/pcd11.130389>

For more information on the requirements for chronic care management billing, please see the CMS tip sheet on CCM: <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/ChronicCareManagement.pdf>

Two common quality metrics used by medical practices to monitor diabetes and hypertension control rates in the office setting are being used to measure improvement over the course of the grants. Practices are being asked to share their data on NQF #0018, CMS 165 or PQRS #236 (Patients with hypertension under control: < 140/90) and NQF #0059, CMS 122 or PQRS #001 (Patients with diabetes out of control or not monitored: HgA1c > 9.0%). These are measures usually reported as a part of the Meaningful Use or PQRS programs. The information on each county's performance metrics on the A1c and hypertension measures will be discussed in the third article in this series: *Ohio Ambulatory Data on Hypertension and Diabetes Management*.

Note: If you are interested in having your data aggregated with other providers in your county, you may contact Cathy Rich at 614.664.2606 or email her at crich@ohionline.org with your numerator and denominator figure for these two quality metrics. If your organization is part of a system, Cathy can let you know if the system is already reporting data.

Diabetes and Hypertension as % of Total Discharges in Ohio by Region

