

Improving Ohio's Health Series

Update on Ohio's Data for Managing Patients with Hypertension and Diabetes

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This article is part of a series devoted to hypertension and diabetes in Ohio and the prevalence of these chronic conditions. It explores the most recent data collected on inpatient hospital discharges by county and by condition. It also reviews data collected to date on ambulatory quality reports on diabetes and hypertension.

It seems like everyone in health care is swimming in data. Anyone who works in the health care area knows that since the introduction of EHR systems, getting data is not the issue. The issue is being able to analyze and interpret the data to determine what may be meaningful for your day-to-day work with patients to improve care.

As a recipient of two grants from the Centers for Disease Control and Prevention (CDC), the Ohio Department of Health is working to improve the prevention and management of chronic diseases. Part of this is using hypertension and diabetes data to inform program initiatives and help guide hospitals and practices in setting priorities for workflow change. This grant provides the opportunity to look at this data over a period of several years. It supports population-wide approaches to the prevention of obesity, diabetes, heart disease and stroke in Ohio, starting with the collection of baseline data. Each year of the grant, the Ohio Department of Health (ODH) is collecting hypertension and diabetes data from health systems around the state.

Ohio started collecting both hospital discharge and ambulatory data in 2014. Over time, the data will be used to identify trends and support efforts to improve patient care.

Ohio Hospital Discharge Data for Diabetes and Hypertension

The second year of data for hospital discharges (2015) is now available through statewide reporting to the Ohio Hospital Association (OHA). The data is explored for changes between the two years and establishes the beginning for examining longer-term trends over time when more years of data are reported in the number of discharges where hypertension and diabetes appeared in the patient's problem list.

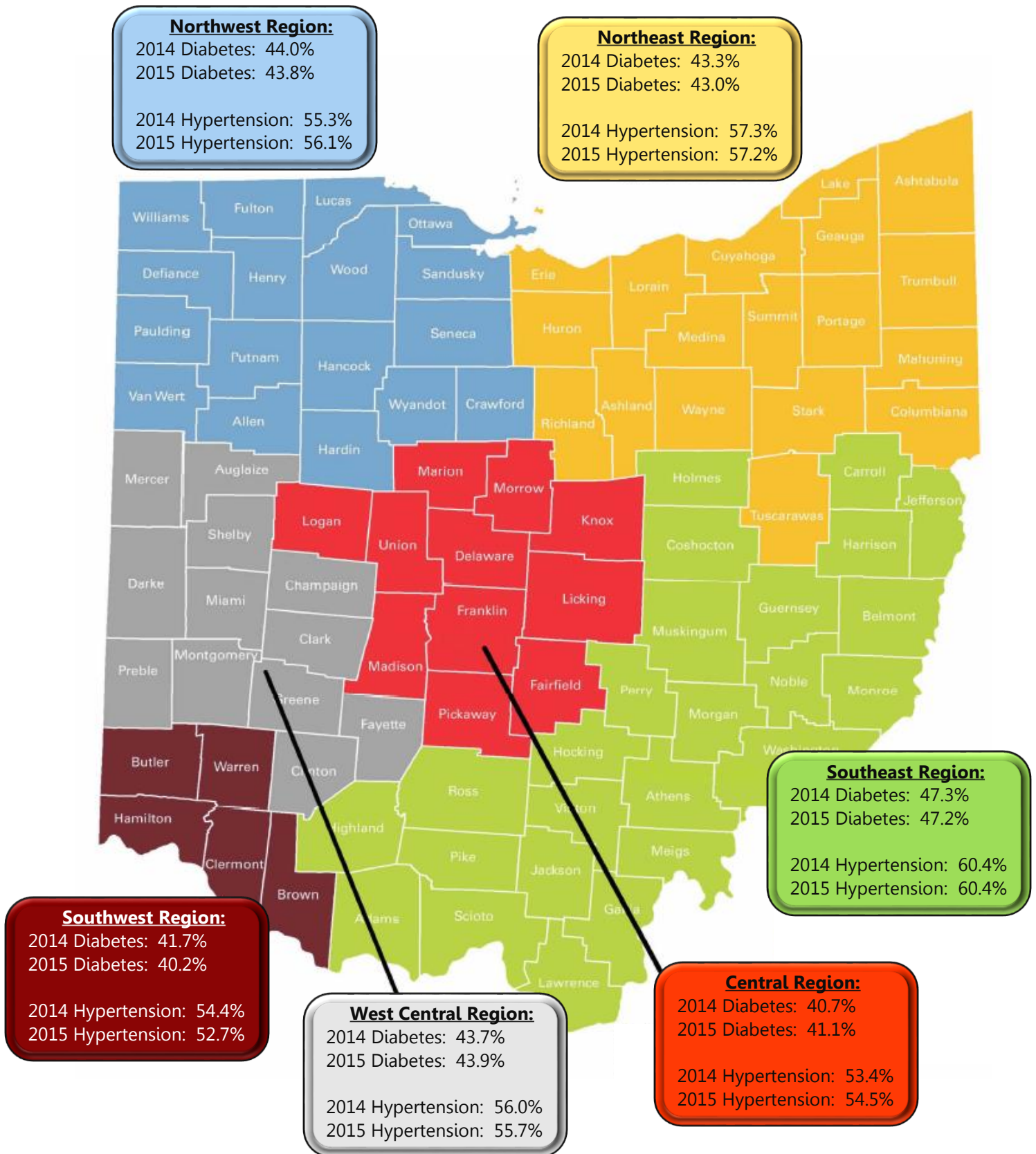
Discharge data has been aggregated by county for every inpatient facility in the state. **Table 1** and **Figure 1** summarize the discharge data by region of the state over the last two years:

Table 1:

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Ohio Hospital Association Statewide
Clinical and Financial Database

	2014 Percent of Discharges with a Diagnosis of Diabetes	2015 Percent of Discharges with a Diagnosis of Diabetes	2014 Percent of Discharges with a Diagnosis of Hypertension	2015 Percent of Discharges with a Diagnosis of Hypertension	
Ohio % of Discharges	43.1%	42.9%	56.2%	56.1%	
Ohio Total # of Discharges					
➤ 2014: 1,122,047 Discharges	484,013	485,534	630,099	635,734	
➤ 2015: 1,132,228 Discharges					
Central Region					
➤ 2014: 178,958 Discharges	40.7%	41.1%	53.4%	54.5%	
➤ 2015: 181,321 Discharges					
Northeast Region					
➤ 2014: 441,298 Discharges	43.3%	43.0%	57.3%	57.2%	
➤ 2015: 443,387 Discharges					
Northwest Region					
➤ 2014: 127,843 Discharges	44.0%	43.8%	55.3%	56.1%	
➤ 2015: 129,649 Discharges					
Southeast Region					
➤ 2014: 96,217 Discharges	47.3%	47.2%	60.4%	60.4%	
➤ 2015: 98,010 Discharges					
Southwest Region					
➤ 2014: 153,982 Discharges	41.7%	40.2%	54.4%	52.7%	
➤ 2015: 157,013 Discharges					
West Central Region					
➤ 2014: 123,749 Discharges	43.7%	43.9%	56.0%	55.7%	
➤ 2015: 122,848 Discharges					
Central Region		Northeast Region		Northwest Region	
Delaware	Pickaway	Ashland	Mahoning	Allen	Paulding
Fairfield	Union	Ashtabula	Medina	Crawford	Putnam
Franklin		Columbiana	Portage	Defiance	Sandusky
Knox		Cuyahoga	Richland	Fulton	Seneca
Licking		Erie	Stark	Hancock	Van Wert
Logan		Geauga	Summit	Hardin	Williams
Madison		Huron	Trumbull	Henry	Wood
Marion		Lake	Tuscarawas	Lucas	Wyandot
Morrow		Lorain	Wayne	Ottawa	
Southeast Region		Southwest Region		West Central Region	
Adams	Hocking	Noble	Brown	Auglaize	Montgomery
Athens	Holmes	Perry	Butler	Champaign	Preble
Belmont	Jackson	Pike	Clermont	Clark	Shelby
Carroll	Jefferson	Ross	Hamilton	Clinton	
Coshocton	Lawrence	Scioto	Warren	Darke	
Gallia	Meigs	Vinton		Fayette	
Guernsey	Monroe	Washington		Greene	
Harrison	Morgan			Mercer	
Highland	Muskingum			Miami	

Figure 1.
Percent of Inpatient Discharges for Diabetes and Hypertension out of the Total Number of Discharges for Ohio by Geographic Region, 2014 and 2015



The information was also aggregated in **Table 2** by county to give a local picture of the impact of diabetes and hypertension on the hospital population.

Table 2: Percent of Inpatient Discharges for Diabetes & Hypertension out of the Total Number of Discharges for Ohio by County, 2014 and 2015

County	2014 Diabetes as Percent of Total Inpatient Discharges	2015 Diabetes as Percent of Total Inpatient Discharges	2014 Hypertension as Percent of Total Inpatient Discharges	2015 Hypertension as Percent of Total Inpatient Discharges
Ohio	43.1%	42.9%	56.2%	56.1%
Adams	48.0%	46.3%	62.2%	57.6%
Allen	46.2%	46.4%	56.9%	58.2%
Ashland	44.8%	45.1%	62.7%	59.4%
Ashtabula	45.1%	44.6%	57.9%	55.3%
Athens	47.6%	48.4%	60.3%	62.0%
Auglaize	40.3%	38.4%	54.6%	53.6%
Belmont	46.5%	46.3%	59.5%	55.6%
Brown	48.8%	46.0%	60.4%	61.0%
Butler	43.7%	42.6%	57.0%	55.3%
Carroll	46.0%	44.0%	61.2%	59.5%
Champaign	46.1%	48.7%	61.0%	61.0%
Clark	49.0%	46.8%	62.4%	59.6%
Clermont	42.1%	40.2%	56.1%	55.1%
Clinton	42.4%	46.1%	53.3%	54.0%
Columbiana	46.9%	45.1%	58.3%	56.4%
Coshocton	45.7%	48.9%	60.5%	63.2%
Crawford	49.7%	47.3%	60.5%	59.7%
Cuyahoga	42.9%	42.8%	55.6%	55.8%
Darke	39.0%	40.7%	51.8%	53.9%
Defiance	45.0%	47.0%	53.9%	56.5%
Delaware	34.2%	34.2%	52.2%	51.6%
Erie	44.9%	45.7%	59.8%	58.0%
Fairfield	42.8%	40.9%	56.0%	55.8%
Fayette	47.4%	52.6%	59.2%	63.2%
Franklin	39.8%	40.6%	51.8%	53.3%
Fulton	42.7%	44.8%	54.2%	57.7%
Gallia	45.8%	50.9%	57.4%	60.5%
Geauga	34.0%	36.0%	55.0%	55.5%
Greene	43.3%	44.7%	54.9%	54.6%
Guernsey	48.2%	45.5%	63.9%	62.6%
Hamilton	41.4%	39.6%	53.1%	51.0%
Hancock	37.4%	40.8%	50.3%	53.5%
Hardin	45.9%	46.1%	61.9%	60.3%
Harrison	45.8%	43.9%	59.1%	60.3%
Henry	42.8%	39.8%	55.8%	54.2%
Highland	44.1%	44.8%	55.3%	55.1%
Hocking	43.9%	46.3%	54.5%	60.6%
Holmes	40.9%	40.4%	54.7%	56.2%
Huron	43.6%	43.5%	55.0%	54.9%
Jackson	53.1%	51.5%	64.6%	65.3%
Jefferson	48.8%	48.1%	60.0%	58.4%
Knox	42.6%	41.9%	58.5%	59.4%

County	2014 Diabetes as Percent of Total Inpatient Discharges	2015 Diabetes as Percent of Total Inpatient Discharges	2014 Hypertension as Percent of Total Inpatient Discharges	2015 Hypertension as Percent of Total Inpatient Discharges
Lake	43.0%	41.4%	59.3%	57.3%
Lawrence	47.4%	47.6%	57.4%	58.1%
Licking	41.6%	41.6%	51.9%	52.8%
Logan	40.5%	44.1%	55.6%	57.7%
Lorain	43.8%	43.0%	58.9%	58.6%
Lucas	45.0%	44.2%	55.9%	56.7%
Madison	45.1%	46.8%	59.7%	60.0%
Mahoning	46.3%	47.5%	57.9%	59.3%
Marion	49.8%	48.8%	61.3%	62.4%
Medina	38.2%	37.7%	55.0%	55.1%
Meigs	49.4%	47.0%	60.9%	59.9%
Mercer	40.3%	37.3%	55.2%	53.1%
Miami	41.2%	40.3%	52.0%	51.9%
Monroe	43.5%	49.0%	63.7%	68.8%
Montgomery	43.6%	43.9%	55.5%	55.5%
Morgan	49.4%	48.3%	64.0%	65.2%
Morrow	43.7%	48.2%	61.6%	61.7%
Muskingum	45.2%	45.2%	61.2%	60.2%
Noble	46.2%	45.9%	62.9%	59.7%
Ottawa	43.9%	41.6%	60.2%	55.7%
Paulding	46.5%	46.0%	54.5%	51.4%
Perry	41.8%	38.7%	57.0%	54.7%
Pickaway	45.4%	44.1%	57.8%	59.7%
Pike	50.5%	52.0%	59.8%	62.9%
Portage	40.2%	40.6%	57.0%	57.1%
Preble	45.1%	43.5%	57.9%	54.3%
Putnam	35.6%	39.5%	51.9%	53.1%
Richland	45.1%	45.6%	60.4%	60.0%
Ross	45.7%	46.5%	55.2%	57.8%
Sandusky	45.3%	44.0%	57.1%	55.5%
Scioto	51.3%	50.3%	64.4%	62.9%
Seneca	42.1%	42.4%	53.2%	55.8%
Shelby	37.3%	38.4%	52.0%	54.2%
Stark	43.9%	42.6%	57.7%	58.5%
Summit	42.7%	42.5%	58.0%	58.4%
Trumbull	45.4%	45.5%	57.3%	59.1%
Tuscarawas	46.0%	45.6%	60.2%	59.1%
Union	43.0%	40.8%	55.4%	56.8%
Van Wert	42.6%	46.8%	52.1%	57.5%
Vinton	52.7%	50.0%	63.2%	62.8%
Warren	36.7%	36.3%	51.1%	49.9%
Washington	50.0%	50.3%	66.5%	66.2%
Wayne	42.7%	41.6%	58.8%	56.1%
Williams	39.5%	39.5%	47.5%	47.6%
Wood	41.9%	41.7%	52.6%	53.8%
Wyandot	38.7%	38.5%	49.6%	52.7%

After two years, the data shows virtually no change in the percentage of diabetes and hypertension discharges in the inpatient setting at the state and regional levels. It will take more time to determine if there is any significant change in the percentage of hospitalizations for people with these two chronic conditions.

The time period of 2013-2015 marked the beginning of CMS’s push to reimburse practices for Transitional Care Management (TCM) and Chronic Care Management (CCM). CMS did not create a billing code for TCM (immediate follow-up with the patient post-discharge) until 2013. For CCM (working with patients with chronic conditions outside the office visit), the billing code was not initiated until 2015. Practices have been slow to adopt the TCM and CCM programs. In 2015, less than 1 percent of Medicare patients were enrolled in programs that managed their chronic conditions. Therefore, it will probably be another 1-2 years before any measurable differences can be seen in hospitalization rates as a result of closer monitoring of these patients with more complex needs.

Ambulatory Provider Data on Diabetes A1C and Hypertension

In Ohio, many providers are aware of the need to monitor diabetes and hypertension in their current patient population. In 2014 and 2015, based on data collected for CDC grants, 2,486 Ohio providers submitted data for at least one of the following two measures:

- **NQF #0018 (Hypertension Good Control: Blood Pressure < 140/90mmHg)**
- **NQF #0059 (Diabetes Poor Control: Hg A1c >9.0%)**

The quality metrics covered almost 400,000 hypertensive patients in 2014 and 220,000 hypertensive patients in 2015. The diabetic patients who were seen and monitored included over 123,000 patients in 2014 and nearly 50,000 patients to date in 2015. (Note: data for 2015 was not complete at the time of publication.)

Table 3: 2014, 2015 Ambulatory Data for NQF #0018 and NQF #0059

2014 NQF 0018 Numerator: <i>Number of Patients with Controlled Hypertension (BP <140/90 mmHg)</i>	2014 NQF 0018 Denominator: <i>Total Number of Patients with Hypertension</i>	2014 NQF 0018 <i>Percent of Patients with Hypertension in Control</i>	2015 NQF 0018 Numerator: <i>Number of Patients with Controlled Hypertension (BP <140/90 mmHg)</i>	2015 NQF 0018 Denominator: <i>Total Number of Patients with Hypertension</i>	2015 NQF 0018 <i>Percent of Patients with Hypertension in Control</i>
283,899	395,283	71.8%	150,622	220,079	68.4%
National Benchmark¹		74.0%	National Benchmark		69.0%
2014 NQF 0059 Numerator: <i>Number of Patients with Hg A1c >9.0 %</i>	2014 NQF 0059 Denominator: <i>Total Number of Patients with Diabetes</i>	2014 NQF 0059 <i>Percent of Patients with Uncontrolled Diabetes</i>	2015 NQF 0059 Numerator: <i>Number of Patients with Hg A1c >9.0 %</i>	2015 NQF 0059 Denominator: <i>Total Number of Patients with Diabetes</i>	2015 NQF 0059 <i>Percent of Patients with Uncontrolled Diabetes</i>
31,175	123,538	25.2%	8,729	47,867	18.2%
National Benchmark		20.5%	National Benchmark		28.4%

¹ Centers for Medicare and Medicaid Services (CMS) *Benchmarks for Measures Included in the Performance Year (2014 and 2015) for Quality and Resource Use Reports.*

In 2014, 71.8% of patients with hypertension in the reporting practices had their hypertension under control with a blood pressure reading of < 140/90 mmHg, and in 2015, this percent was 68.4%. In 2014, 25.2 percent of diabetic patients in reporting practices were poorly controlled, and in 2015, this percent was 18.2%. This is a reverse measure, i.e., the lower the number, the better the quality. However, because 2015 data are still preliminary and data are only included for practices reporting data for this project, comparisons to previous years and the national benchmarks cannot be made.

Both diabetes and hypertension-related illnesses [such as Chronic Obstructive Pulmonary Disease (COPD) and heart failure] are considered ambulatory care sensitive conditions (ACSC)². These are diseases where a hospitalization is considered potentially preventable with appropriate primary and preventive care. Therefore, it will be important to see over time if more focused work in the ambulatory area with patients having diabetes or hypertension will affect the admission rates for patients with these chronic conditions.

Please visit the CliniSync website: www.clinisync.org for copies of other articles and webinars that were developed for the *Improving Ohio's Health* series. Listed below are just a few of the titles:

- *Controlling Diabetes and Hypertension: Ohio Hospital Inpatient Discharges for Diabetes and Hypertension*
- *Effectively Using EHR Functionality to Manage Patients with Hypertension & Diabetes*
- *Establishing a Chronic Care Management Program in an Independent Group Practice*
- *Technology Tactics to Make Patient Engagement Easier: Improving the Health of Patients with Hypertension & Diabetes*
- *Electronically Connecting the Community: Making Care Plans Easier*

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² CMS 2014 Measure Information about the Acute and Chronic Ambulatory Care - Sensitive Condition Composite Measures, Calculated for The Value-Based Payment Modifier Program.