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April 28, 2021

The Honorable Patrick Testin  
Chair, Committee on Health and Human Services  
131 South, State Capitol  
Madison, WI 53707

The Honorable Joe Sanfelippo  
Chair, Committee on Health  
314 North, State Capitol  
Madison, WI 53708

Dear Senator Testin and Representative Sanfelippo:

Wisconsin Stat. § 153.05(2s) directs the Department of Health Services (DHS) and the Department of Employee Trust Funds to jointly prepare an annual report on the activities of the Wisconsin Health Information Organization (WHIO). This report is submitted to the standing committees of the Legislature with jurisdiction over health issues, and can also be found online at <https://www.dhs.wisconsin.gov/library/p-01067.htm>.

Please find enclosed the 2019 annual report on the activities of WHIO. If you have any questions, please contact Mitzi Melendez-Prodoehl, eHealth and Quality Specialist, DHS/Division of Medicaid Services, at 608-261-8871.

Sincerely,

Handwritten signature of John Voelker in black ink.

John Voelker, Secretary  
Department of Employee Trust Funds

Sincerely,

Handwritten signature of Julie Willems Van Dijk in black ink.

Julie Willems Van Dijk, Deputy Secretary  
Department of Health Services

Enclosures

**2019 Annual Report to the Wisconsin Legislature**  
**on**  
**the Wisconsin Health Information Organization (WHIO)**

**Submitted by the Department of Health Services**  
**September 2020**

**Executive Summary**

In 2008, Wis. Stat. §153.01 (3g) established a requirement for the Wisconsin Department of Health Services (DHS) to maintain a health care claims data repository and provide information to the public on the quality and cost efficiency of health care in Wisconsin. The Wisconsin Health Information Organization (WHIO) was organized as an independent 501(c)(3) to develop an All-Payers Claims Database (APCD) to meet this requirement on behalf of the DHS. Over the past decade, multiple health care stakeholders have used the WHIO's APCD to inform their strategic plans, prioritize and drive improvements in cost, quality, and access, guide the design of insurance benefits and payment models, and to conduct research.

In 2019, the WHIO's new state-of-the-art technology platform went live with new data file and report products. In addition, the WHIO and the Wisconsin Collaborative for Healthcare Quality (WCHQ) formed a joint venture, 360ValuCounts, a first in the nation information system designed to improve the value of Wisconsin's health care. 360ValuCounts will combine the claims and clinical data assets of WHIO and WCHQ to provide state-wide, integrated quality, outcomes, and cost reports on high impact clinical conditions.

For many years, Wisconsin has ranked in the top 10 states for the quality of health care delivered due to the collective efforts of many organizations. Wisconsin also ranks in the bottom 10 states for the cost of its health care which impacts access to care for many citizens, the percentage of annual tax dollars that are required to fund the Medicaid program and the state's ability to retain and attract new businesses. While there are many factors that contribute to high health care costs, the provision of low value, at times harmful care, fueled by a fee-for-service payment system, is one area that everyone can agree runs counter to Wisconsin's tradition of innovation. The WHIO is the only Wisconsin asset that can provide the data and information needed to inform cutting edge payment models while maintaining our high quality standards so that Wisconsin remains an attractive place to live and work.

**Background**

In 2008, Wis. Stat. §153.01 (3g) established a requirement for the Wisconsin Department of Health Services (DHS) to maintain a health care claims data repository and provide information to the public on the quality and cost efficiency of health care in Wisconsin. The WHIO was established in 2008 as a 501(c)(3), public-private partnership to fulfill this role on behalf of the DHS. The WHIO's founder envisioned that; 1) the WHIO data and information would be

accessible to all health care stakeholders, 2) WHIO would serve as a source of unbiased information and be used to answer a variety of questions, and 3) the cost to maintain the WHIO would be shared by all stakeholders and customers. Over time, the WHIO has grown its volume of data, the sophistication of its technology and the number of diverse stakeholders that rely on the WHIO information to understand the health care delivery system in Wisconsin.

The WHIO is governed by a multi-stakeholder Board of Directors (BOD) that includes state agency, commercial payer, provider, business, information system and health care improvement representatives. The 2019 BOD included the organizations listed below.

- Department of Health Services
- The Alliance
- Benefits Services Group Analytics
- BroadStreet
- Business Health Care Group
- Employee Trust Fund
- Marshfield Clinic
- NeuGen (Service company for Wisconsin Education Association Trust and Health Tradition insurance company)
- United Health Care of WI
- Wisconsin Physicians Service Health Insurance
- Wisconsin Collaborative for Healthcare Quality
- Wisconsin Hospital Association
- Wisconsin Medical Society
- Wisconsin Statewide Health Information Network

At its inception, the State's portion of the WHIO's funding was provided through the Physician Office Visit Data Program fee. In 2012, this fee was discontinued without identification of an alternative state funding mechanism. In response, the WI Division of Medicaid Services obtained a 2013-2015 grant from the Center for Medicare and Medicaid Services to fulfill the state's commitment to the WHIO. From 2016 through the end of 2019, the WHIO has been solely funded by private sector sales while fulfilling the Chapter 153 requirements on behalf of the DHS. Nearly all other states with an All-Payer Claims Database (APCD) designate funding for their APCD that is linked to vital state government functions to better understand their return on their investment in health care, one of the largest industries in most states. Appendix A: Information to Improve Health and Health Care in Wisconsin, provides examples of how other states are using their APCD.

**The WHIO information system today represents about 75% of Wisconsinites and contains information on over \$50 Billion in annual health care spending.** No other data system in Wisconsin can provide a full continuum of care view of the health care ecosystem. The WHIO information can be evaluated by:

- **Setting: inpatient/ambulatory surgery, emergency department, outpatient clinic, urgent care, rehabilitation, home, and long-term care; and**
- **Service: pharmacy, laboratory, radiology, durable medical equipment, and hospice; and**
- **Professional: physicians, nurse practitioners, physician assistants, psychologist, chiropractors, and therapists.**

## Value of the WHIO Information to Wisconsin

The WHIO information system is used to inform policy, support strategic planning, prioritize and monitor improvements in cost, quality, and access to care, identify best practices, conduct health services research and to inform the public. Examples of how the WHIO information is used to improve care outcomes and reduce costs are listed below.

- Health care providers - benchmark and monitor the quality of their care against best practices, compare the level of resources used (a proxy for cost) to streamline care processes, identify areas where waste can be safely removed and determine what care is being provided outside of their system to improve population health management and prepare for value-based payments.
- Health insurers and employers - incent the use of evidence based practice guidelines and a reduction in cost variation, identify high performing providers to build high value networks, inform value-based benefit design and purchasing, conduct studies for adverse events and enhance consumer's engagement in their care.
- Statewide quality improvement organizations (Wisconsin Collaborative for Health Care Quality (WCHQ) and Surgical Collaborative of Wisconsin) - prioritize, benchmark, and monitor their improvement activities.
- Wisconsin Hospital Association - augments its hospital charges with professional charges so that consumers can learn more about the cost of health care via wipricepoint.org.
- Health services researchers - identify the most effective ways to organize, manage, finance, and deliver high quality, cost effective care.
- State agencies - public health evaluations, the Wisconsin Mental Health and Substance Abuse Needs Assessment, and the SeniorCare program reporting to the Center for Medicare and Medicaid Services (CMS).

## WHIO 2.0: Meeting Information Needs into the Future

In late 2017, the WHIO BOD determined that it was time for the WHIO to transition to an updated technology platform. SymphonyCare, headquartered in Madison, WI, was selected as the WHIO's new technology partner. SymphonyCare has been providing health information technology services for over 20 years. In addition to their existing data management, patient engagement and care coordination solutions, SymphonyCare provided the right partnership and innovation insights to support growth of the WHIO as the sophistication of the information required evolves. Since August 2018, the WHIO has worked with insurance companies, Medicaid, pharmacy benefit manager organizations, and self-funded employers to transition their contracts and claims data to the WHIO's new technology platform. **In July 2019, the WHIO released its first products (Intelligence Bank, Applied Insights, Custom Analytics and Reporting) through WHIO 2.0.** Appendix B includes a sample of these reports.

The **Intelligence Bank** product line is used by organizations that have a mature business intelligence program. The Intelligence Bank currently includes two de-identified data files.

- Standard Integrated Data File (SID) - SID includes member characteristics, medical, pharmacy, provider, and reference data files. The data is organized around a unique, de-identified insured person number (WHIO ID) to create a cumulative record of each

person’s diagnoses and services regardless of who provided or paid for the care. The SID creates a longitudinal database to evaluate health outcomes and care patterns over time and is used by insurance companies, provider organizations and researchers.

- **Enhanced Data file (ED)** - ED includes the WHIO ID, member characteristics, medical, pharmacy, provider and reference data files, plus indicators of patient risk (for risk adjustment), episodes of care (also called bundles of care) and normalized prices (to evaluate the resources used to create an episode of care). The unique value of ED is the ability to evaluate care quality, utilization, and costs. Ed is used by insurance companies, provider organizations, employers, and associations.

The **Applied Insights** product line offers pre-built reports for provider organizations and insurance companies. The Applied Insights reports do not require technical or analytical support. The reports are accessed through a secure, web-based portal which provides the organization’s results compared to a statewide benchmark. Report selection criteria/filters allow the user to create hundreds of reports on demand. In addition to the reports, providers and insurance companies can extract de-identified claims data through Population Analyzer for nine chronic diseases and conduct their own analyses to support their specific population health management programs. Below is a list of the current provider organization reports.

**Table 1 Provider Organization Reports**

<p><b>Key Performance Indicators</b> Examine important utilization metrics focused on inpatient care, emergency department services, advanced imaging and professional services in a comprehensive view with your organization’s performance compared to Wisconsin benchmarks.</p>	<p><b>Pharmacy Utilization</b> Deep dive into WHIO’s pharmacy information to compare your organization’s performance against Wisconsin benchmarks for medication use and charges. This report also includes information on high cost medication use associated with select diagnoses.</p>
<p><b>Market Share</b> Choose a geographic boundary and identify the distribution of services by health care providers in that area. See volume by patient count or total charges for inpatient and ambulatory care treatments.</p>	<p><b>Potentially Avoidable Care</b> Identify your organization’s rates versus Wisconsin benchmarks for potentially avoidable care such as medical imaging and conditions for which treatment alternatives exist.</p>
<p><b>Outmigration Patterns</b> View the care location patterns of your primary care physician’s patients, including care received outside of your organization. Alternatively, examine the degree to which your organization is capturing the full spectrum of care provided for high interest surgical procedures.</p>	<p><b>Opioid Prescribing</b> Compare your organization’s opioid prescribing patterns compared to Wisconsin benchmarks. Includes prescribing habits of individual physicians compared to peer group benchmarks for specialties that prescribe the most opioids.</p>
<p><b>Population Analyzer</b> Leverage pre-built, state-wide populations to create your own de-identified record sets for analysis in your technical environment. High interest populations include diabetes, chronic obstructive pulmonary disease, hypertension, asthma, oncology and opioid abuse.</p>	

Finally, the **Custom Analytics and Reporting Service (CARS)** provides custom data extracts, analytics, and report to customers who do not require ongoing services. In 2019, most custom projects were commissioned by researchers.

## 2019 Innovation Powered by WHIO

In 2019, several organizations recognized the benefits of the WHIO's data and technology assets in helping to achieve their strategic goal of state-wide improvement in health and the value of Wisconsin's care system. Two of these initiatives are showcased below.

**360ValuCounts - The WHIO and the Wisconsin Collaborative for Healthcare Quality (WCHQ) entered into a joint venture, 360ValuCounts, to integrate the organizations' respective claims and clinical data assets to create the nation's first statewide value (quality, cost) reporting system.** Among other uses, 360ValuCounts will be used to support the WCHQ's Value Acceleration Initiative, which will first focus on reducing the variation in quality, outcomes, and the cost of care related to diabetes and behavioral health. Through the WHIO's Applied Insights reporting system, provider organizations will be able to benchmark their organization's results against other provider organizations and evaluate the care that their physicians have provided. Insurance companies, self-funded employers, Medicaid, and others will be able to compare the performance of provider organizations. These reports will provide a "360 degree" view of the three components of affordability: waste, price, and overall health. In addition, 360ValuCounts will facilitate a state-wide improvement agenda, based on the priorities of provider organizations, from which delivery system improvement activities, new benefit plan and value-based payment models will be created.

**Wisconsin Physician Value Study -** The Business Health Care Group (BHCG), using the analytical services of GNS Health, a health care artificial intelligence company, analyzed the value of care provided by 3,760 primary care physicians (PCP) plus select specialists using the WHIO data to determine if higher quality, cost efficient care could be delivered to BHCG member employers. **The study found that in 2017 alone, more patients could have received the evidence based care they required and \$394.5 million could have been saved if the PCPs that scored in the bottom half of this analysis had provided care similar to their peers that scored in the top half.** A similar evaluation for cardiologists performing angioplasty procedures, orthopedic surgeons performing hip and knee replacements, and obstetricians delivering babies estimated an additional \$100 million in potential savings. The BHCG has made the results of this study accessible to provider organizations, insurance companies, employers and others who are interested in re-designing Wisconsin's payment and care system.

**Additional innovations, such as those listed below, are now possible through the WHIO.**

**Public Health Surveillance – Wisconsin could maintain a public health surveillance system to identify "early warning signs" that a new communicable disease may have entered Wisconsin or that an existing communicable disease is spreading to a new population, assess which populations are most vulnerable and design targeted interventions.**

**Low Value, Potentially Harmful Care – Wisconsin could make care safer by eliminating care that does not improve outcomes and may lead to harm.** Through the national program Choosing Wisely, physicians have identified hundreds of procedures that research has determined do not improve a patient's outcome, increase the risk of harm to a patient, and increase costs. The WHIO information system could be used to quantify low value, potentially harmful care and monitor the elimination of this care by provider organizations.

**Reduce Prescription Drug Prices –** As drug manufacturers bring new medications to the market or increase the price of medications that are widely used by consumers, **WHIO could**

**prioritize high cost prescriptions for group purchasing initiatives, monitor for unexpected increases in drug prices, and provide information to consumers on lower cost alternatives to higher priced drugs** that they should discuss with their health care providers.

### **Other Considerations**

While most states have mandated data submission to their APCD, Wisconsin has relied upon voluntary data contributions from private and public payers. As the federal government and others have gained an understanding of the value of claims based information and as competition among health plans for members has increased, two national insurance companies who do business in Wisconsin have stopped submitting their data to WHIO indicating that their data is a “competitive advantage” to their organizations. However, data alone are not valuable. The value of the WHIO information is realized when insights are utilized to inform policies and improvement programs that lead to high-quality, person centered, affordable health care for all Wisconsinites. Insurance companies, employers and the Medicaid program who contribute data to the WHIO on a voluntary basis deserve thanks and recognition for their commitment to enhancing health and the value of the health care delivery system in Wisconsin.

**The WHIO remains a state-wide, statistically valid data set and has increased its data coverage through self-funded employers and by completing its Center for Medicare and Medicaid Services Qualified Entity Certification to obtain the Medicare Fee-for-Service data. Nevertheless, this voluntary participation model could impact WHIO in the future.**

The Wisconsin Department of Employee Trust Funds (ETF) has made participation in the WHIO a requirement for insurance companies that provide services to ETF members. Additional incentives could be instituted to ensure that state government and the health care stakeholders who rely upon the WHIO to support their business decisions are able to access the data and information as instructed in Chapter 153.

### **Summary**

In 2019, WHIO 2.0 became a reality bringing to Wisconsin a state-of-the-art data and information system capable of meeting Wisconsin’s demands for knowledge today and into the next decade. This transition was informed by the WHIO’s customers and diverse BOD, the DHS, and others who rely on objective information to improve health and the health care delivery system. As new scientific tests and treatments enter the market, they will be accompanied by higher costs which will strain the health care budgets of public agencies, private sector employers and Wisconsin’s citizens. Using robust information to support decision making will ensure that health care resources are used where they will have the greatest impact. The WHIO illuminates many opportunities to drive further improvements in health care quality, access, and cost across Wisconsin. **The WHIO is now poised to serve as a mission critical data and information partner for policy makers, state agencies, insurance companies, employers, provider organizations, doctors, consumers, and researchers in Wisconsin.**

Appendix A:  
Information to Improve Health and Health Care in  
Wisconsin



## Information to Improve Health and Health Care in Wisconsin

**What will it take to make healthcare in Wisconsin more available, more affordable, and more effective? For starters, clinicians, administrators, policy makers, insurers, employers and consumers all need vast amounts of diverse data turned into useful information that can identify opportunities and support good decisions to deliver higher value care.** This information needs to span the continuum of care from prevention to critical care to long-term care. And it must identify who is at risk for advancing disease, inform acute care episodes and identify individuals with chronic conditions that are very sick, incur high costs and require care coordination.

Provider organizations and insurance companies need information on health care utilization, costs, adherence to evidence-based metrics and clinical outcomes to benchmark performance, monitor improvements and create alternative payment models (APMs). Policy makers need cost, clinical and patient outcome information to develop sound policies and monitor results. Consumer-reported responses to treatments and personal health habits, compared to personal goals, are required to refocus care delivery from a model based on illness to one focused on wellness and shared decision making. This information, combined with social risk factors, will assist in targeting interventions within and beyond the traditional delivery system to improve the health of all Wisconsinites.

An All-Payer Claims Database (APCD) is a very large data system that includes medical, pharmacy, and dental claims, as well as eligibility and provider files collected from private and public payers of health care services.<sup>1</sup> Advanced APCDs are beginning to add data like socio-economic data to their claims data. Around the country, APCDs are used by private and public sector health care stakeholders, including state governments, to understand trends in health care quality, safety and cost, to support health care innovation and to advance improvement in the health of their population.<sup>2</sup>

### Wisconsin's APCD – WHIO

In 2007, the State of Wisconsin established Chapter 153, which requires the Wisconsin Department of Health Services (DHS) to maintain a health care claims data repository and provide information to the public on the quality and cost efficiency of health care in Wisconsin. The WHIO was established as a 501c3, public-private partnership to fulfill this role on behalf of the DHS. The WHIO is governed by a multi-stakeholder Board of Directors which includes state agency, insurance organizations, provider organization, clinician, and business representatives.

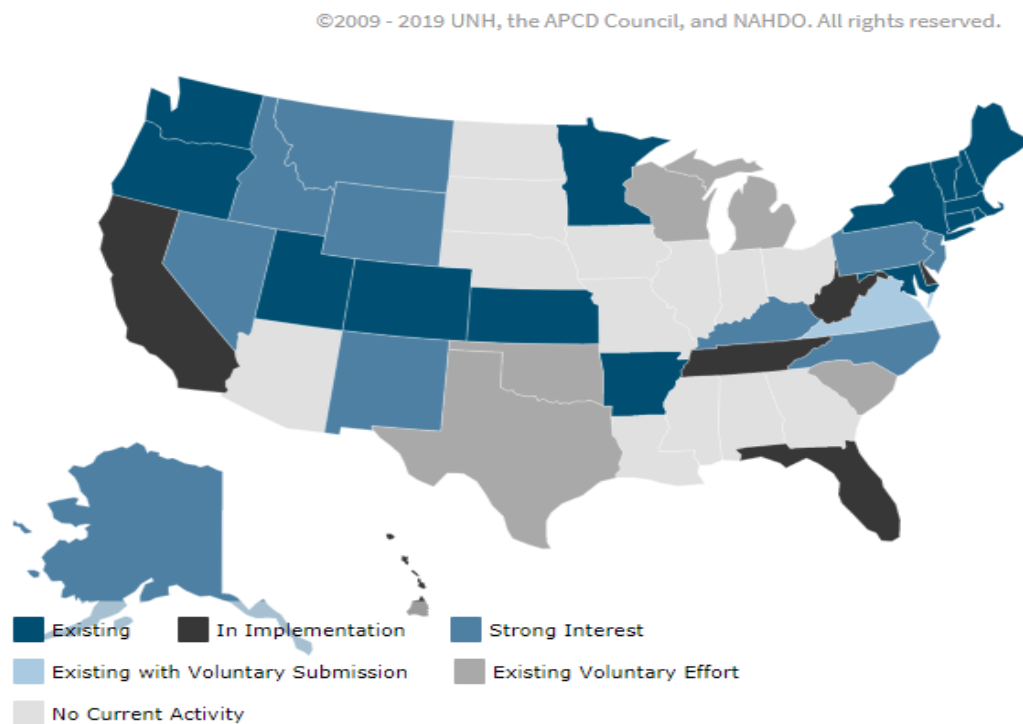
Today, the WHIO maintains Wisconsin's largest source of health information and data spanning the continuum of care with the capability of delivering insights into the health of the people of the state and evaluating Wisconsin's health care delivery system. The WHIO information system includes claims data on approximately 4.2 million insured lives submitted by Medicaid, commercial insurers, self-funded employers, and Medicare Advantage plans. Payers, including the Wisconsin Medicaid program, submit their claims data to the WHIO on a voluntary basis. To increase the volume of data submitted to the WHIO, the state's Department of Employee Trust Funds implemented a requirement in 2012 that health plans that serve state employees must contribute claims data to the WHIO.<sup>3</sup>

In 2019, the WHIO completed a transition to a state-of-the-art information system to expand its ability to serve the needs of Wisconsin’s health care stakeholders today and into the future. Current products and services include the Intelligence Bank, consisting of de-identified data files; the Applied Insights benchmarking reports; a Provider Portfolio; Custom Analytics and education provided under Data Driven Decisions services.

Wisconsin healthcare stakeholders – providers, payers, purchaser, patients, researchers and state government – have taken steps to use the WHIO data to drive higher quality, safer, more cost-efficient healthcare over the past 12 years. While some progress has been made, the state and its health care stakeholders could do much more to take full advantage of the wealth of information the WHIO data and analytics provide.

### APCD Use Across the United States

Today more than 30 states have or are in the process of establishing an APCD. Figure 1 right, published by the APCD Council, illustrates the penetration of state level APCDs.<sup>4</sup> Note that Wisconsin is one of just five states with a voluntary APCD, meaning that there is no state law requiring that payers submit claims to the APCD.



**Figure 1** APCD Council Interactive State Report Map illustrating APCD activity <sup>[4]</sup>

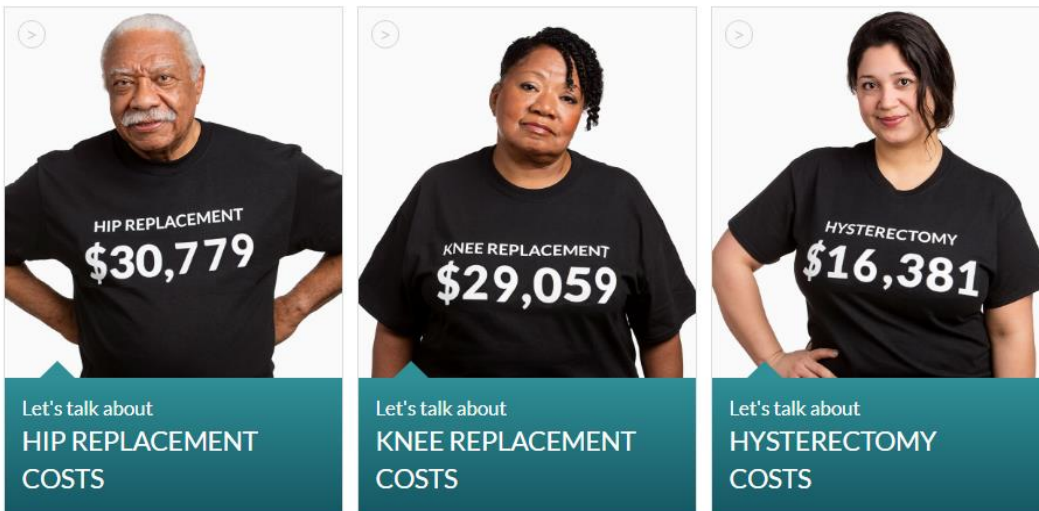
### APCDs Transform Data into Information and Action

#### Promoting Transparency of Information on Health Care Cost and Value

Some states use their APCDs to spearhead data transparency efforts with an eye towards informing consumers and reducing costs in the long run. Thanks to these efforts, consumers can shop for their health care with an understanding of the value (quality and cost) of the care they are purchasing, payers can use the information to shape incentives for improvements in care delivery, and providers can benchmark themselves against their peers to determine where their improvement efforts should be directed.

Colorado is a leader in this space—the Center for Improving Value in Health Care (CIVHC) maintains an online Shop for Care tool based on their APCD.<sup>5</sup> This public website, paired with public awareness campaigns, encourages consumers to choose providers with lower total costs, regardless of their out-of-pocket costs. CIVHC describes the use of total cost shopping as similar to turning off the faucet in a hotel room—it may not impact your out-of-pocket costs immediately, but by reducing what your insurer pays, it will lower costs over the long run.<sup>6</sup>

Choose a procedure to learn how cost and quality varies in Maryland:



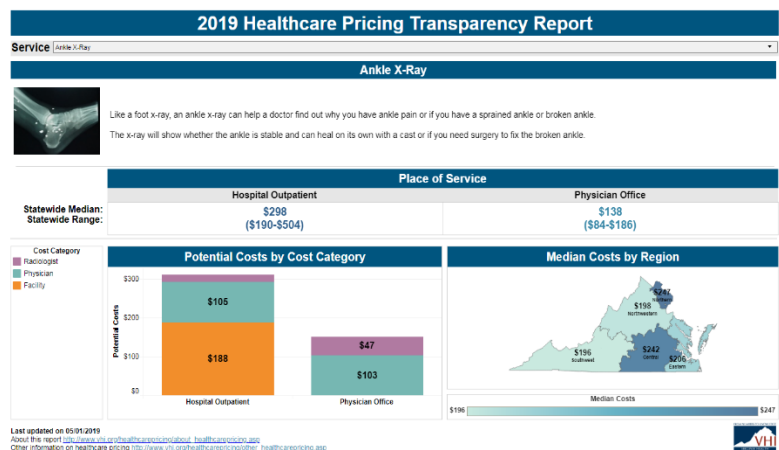
Maryland’s APCD, maintained by the Maryland Health Care Commission, has also developed publicly available information on health care costs. Its website, WearTheCost.org, lists prices for select procedures across every hospital that encounters a minimum number of episodes of care. (Figure 2) The Website’s tagline,

**Figure 2** WearTheCost.org campaign by Maryland’s APCD [7]

“We won’t control the high costs of health care until we’re all talking about it,” demonstrates the state’s commitment to turning informed consumers into savings.<sup>7</sup>

National health plans have used publicly available cost information to encourage providers to reduce their costs. In 2010, Anthem Blue Cross Blue Shield was embroiled in a contract dispute with Exeter Hospital in New Hampshire. Anthem officials were able to point to APCD information which showed that Exeter had unusually high costs for certain services. With support from the media, Anthem obtained \$10 million in concessions from Exeter.<sup>8</sup>

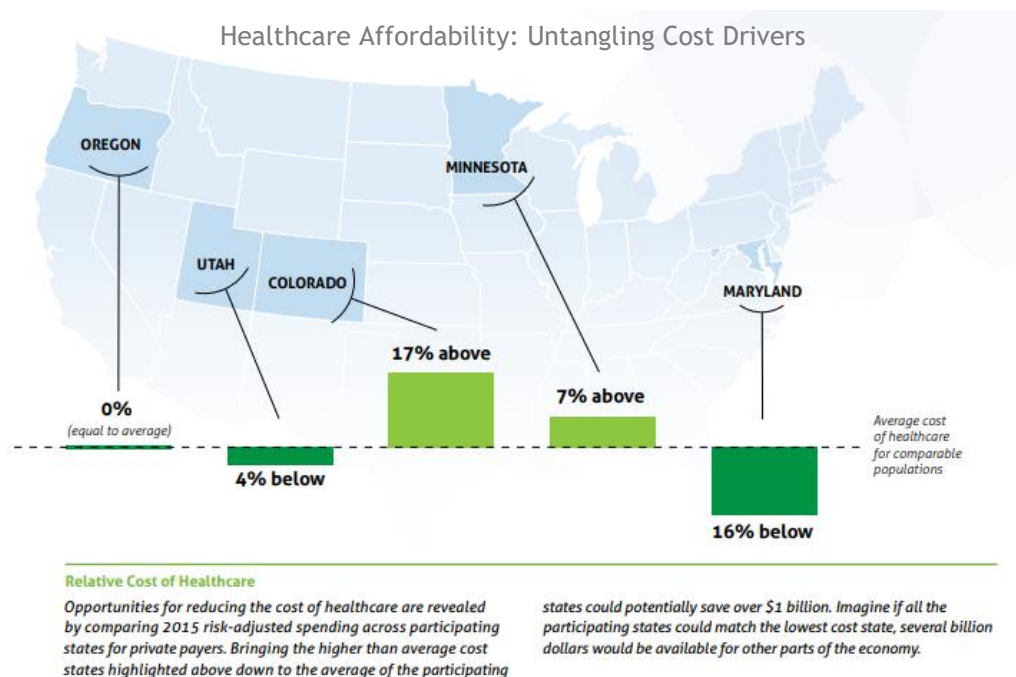
Even states with a voluntary APCD can create tools for public use if they have high participation by their health plans, self-funded employers and state government, combined with a strong commitment to reducing costs. Virginia, which does not mandate data submission, publishes the Healthcare Pricing Transparency tool, which allows consumers to select a procedure and view cost breakdowns by service setting and cost category.<sup>9</sup> (Figure 3) The tool also displays median costs by region within the state. Today, healthcare consumers in Wisconsin do not have access to the same sort of publicly available information.



**Figure 3** Virginia’s online Healthcare Pricing Transparency tool [9]

## Understanding Drivers of Health Care Cost

Wisconsin's self-funded employers, led by the Business Health Care Group, are using the WHIO data to evaluate the quality and cost efficiency of primary care physicians through the Wisconsin Physician Value study. Using WHIO data to evaluate primary care physicians on 26 conditions they commonly treat. The study determined that **if physicians that ranked in the lowest 50<sup>th</sup> percentile practiced like the physicians that ranked in the upper 50<sup>th</sup> percentile, Wisconsin could have saved \$394.5M in 2017.** Additional savings were identified among select procedures performed by specialist.<sup>9,10</sup>



On a national level, the Network for Regional Healthcare Improvement (NRHI) produced a report in 2018 titled "Healthcare Affordability: Untangling Cost Drivers."<sup>11</sup> (Figure 4) This collaborative effort by the APCDs of six states resulted in a better understanding of the relative cost of healthcare across different states.

**Figure 4** NRHI 6 state APCD collaborative work on the relative cost of healthcare <sup>[11]</sup>

Similar studies have been conducted in other states, such as Oregon's quarterly reports of per-member per-month costs and utilization and Colorado's study of price variations for common procedures across facilities.<sup>12</sup> As more states adopt APCD models, standardization of the APCD data across states will allow for interstate comparisons to be conducted. The APCD Council is also working to improve the uniformity of data submission requirements across states.<sup>13</sup>

## Policy Decisions

When policy changes are under consideration, many policy makers turn to their **APCD to identify changes that will have the greatest potential impact for their constituents and to monitor the impact of these policies over time.**

In Wisconsin, the DHS has used the WHIO data, along with other data sources, to complete its SeniorCare Program evaluation required by the Centers for Medicare and Medicaid Services and to conduct a needs assessment of the Wisconsin Behavioral Health and Substance Use program to identify the number of individuals receiving these services in the Medicaid and commercial sectors. Wisconsin's own Department of Health Services (DHS) has used WHIO data to improve efficiency and value. For example, WHIO data has been used by the Medicaid program to:

- Identify Medicaid populations who receive care that is different from the commercial populations;
- Identify providers with high readmission rates, as well as factors that contribute to readmissions;
- Identify low value care (e.g., imaging for low back pain) provided to Medicaid members and incentivize Medicaid HMOs to scrutinize this care. Educate Medicaid members regarding the potential harm this care could cause; and
- Compare providers on quality and resource use/cost (value) for high volume populations (e.g., pregnancy, depression, diabetes, hypertension). With the addition of a Medicaid HMO field to the data Medicaid currently submits, these evaluations could be completed at the Medicaid HMO level.

The Division of Public Health (DPH) has also used the WHIO data to complete studies like those listed below.

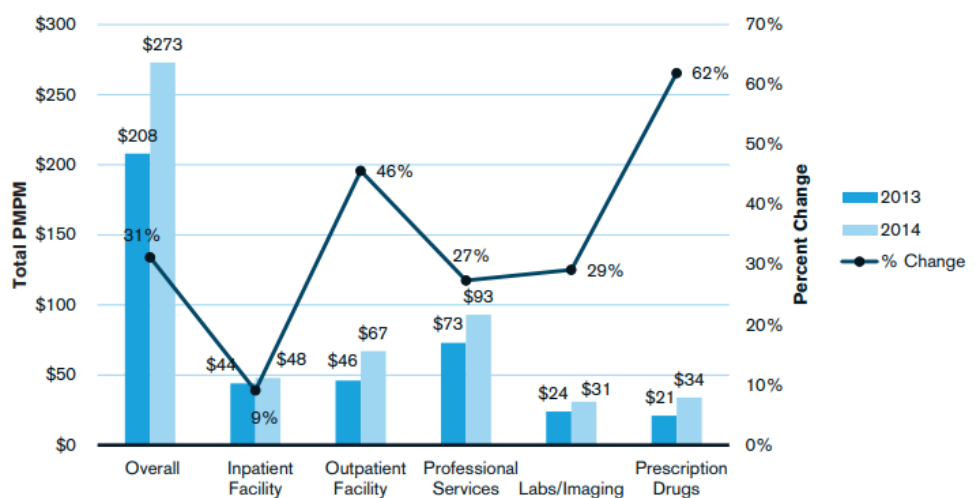
- Chronic condition estimates of prevalence, cost and geographic variation
- Impact of Hepatitis C in Wisconsin
- Measuring maternal Tdap and influenza vaccination rates
- HCV antibody testing for patients who were seen at Sixteenth Street Clinic

In Arkansas, their APCD is used to understand the results of Medicaid expansion efforts by comparing care provided to Medicaid members to those who had commercial plans.<sup>14</sup>

In December 2018, Minnesota released a report using information from its APCD on the utilization of telemedicine in the state.<sup>15</sup> The study's authors were able to analyze the extent to which telemedicine is being used in metropolitan vs. non-metropolitan areas, and by type of insurance coverage in each of those categories. This information will inform policymakers and provider organizations as telehealth services continue to grow.

Maryland uses its APCD to evaluate the impact of legislation and regulation. Following implementation of major portions of the Affordable Care Act in 2014, the Maryland Health Care Commission produced an analysis of per member per month (PMPM) spending across all insurance market segments, with a focus on the individual market, considering the many changes the ACA made to the individual market.<sup>16</sup>

**EXHIBIT 2a. Total PMPM Changes by Service Category, Individual Market, 2013 to 2014**



**Figure 5** Change in per member per month spending in Maryland after implementation of the Affordable Care Act. <sup>[16]</sup>

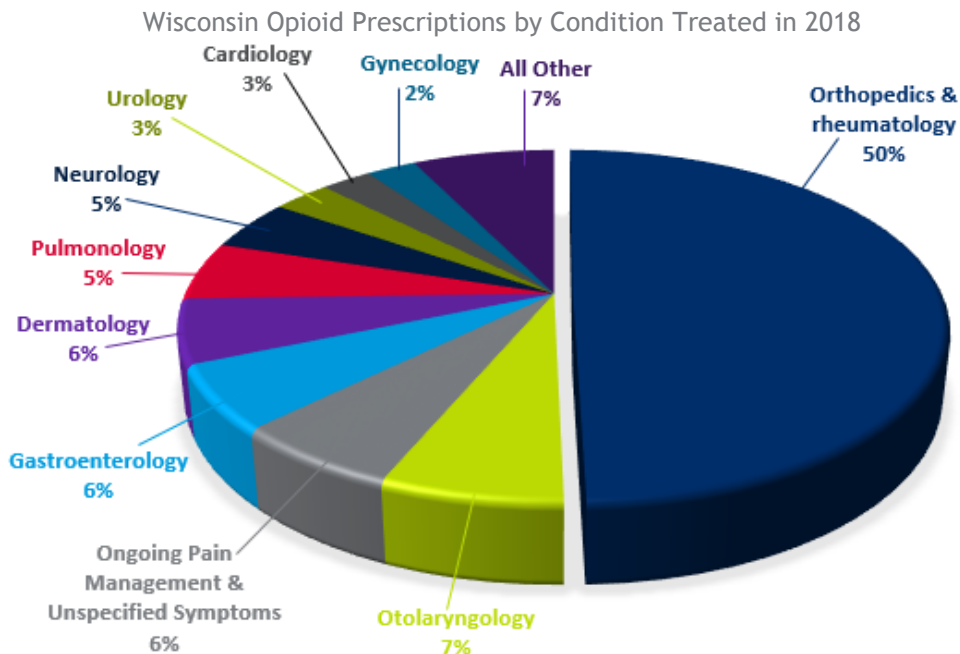


## Using APCDs to Solve Healthcare’s Most Pressing Issues

APCDs are often tasked with identifying problems and solutions to healthcare’s most difficult issues.

### Addressing the Opioid Epidemic

In recent years, several states have aimed the analytic power of their APCDs at evaluating opioid prescribing practices.



In Wisconsin, WHIO has published a statewide snapshot of opioid use which includes the distribution of opioid prescriptions by clinical area and patient demographics.<sup>17</sup> (Figure 6) In addition, the WHIO provides reports that allow provider organizations to compare their clinicians prescribing practices to their peers to understand the appropriateness of these prescribing practices.

**Figure 6** Snapshot of opioid prescriptions by condition produced by Wisconsin’s APCD as part of an InfoByte: Opioid Dependence in Wisconsin. <sup>[17]</sup>

Colorado’s CIVHC produced a report in March 2019 detailing prescribing patterns in the state.<sup>18</sup> While it found that Colorado was “seeing positive movement toward reducing the total number of prescriptions,” CIVHC was able to recommend several data-driven courses of action to speed up progress including provider education, patient education and research on alternative pain management.

Virginia’s voluntary APCD has been used to locate health districts with the worst opioid problems and design interventions. Faced with “alarming” localized overdose information from the APCD, officials at Sova Health-Martinsville quickly created policies to limit prescriptions. Over a five-month period, the health system reported a 61 percent decline in prescribed opioids.<sup>19</sup>

### Understanding the Health and Fiscal Effects of Smoking

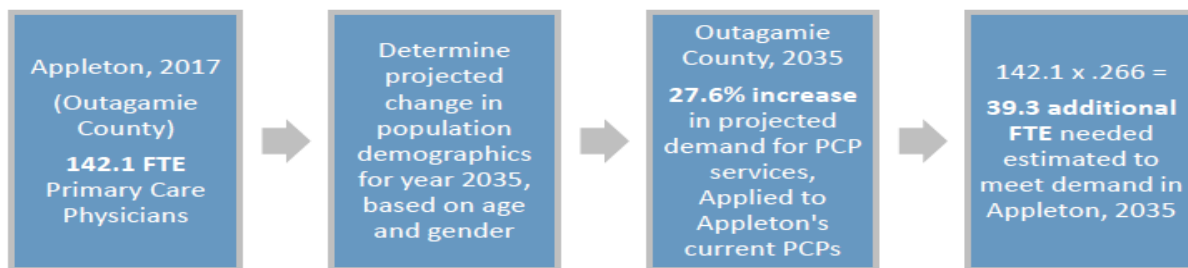
Smoking – specifically diseases caused by smoking and tobacco use - remains a leading cause of preventable death in Wisconsin and the nation. The Arkansas Center for Health Improvement, using APCD data, completed a study of smoking-attributable healthcare costs for both Medicaid and commercial insurance. It found that \$795 million of Arkansas Medicaid’s annual expenditures were tied to smoking, compared to \$542 million for private insurance. The use of more comprehensive APCD data provided a much more accurate—and daunting—estimate of the costs of smoking than the state had seen previously. Before the study, a Campaign for Tobacco-Free Kids study estimated that smoking only cost the Medicaid program \$293 million.<sup>20</sup>

## Ensuring Healthcare Access

Achieving better health outcomes and wiser healthcare utilization requires access to the care people need when they need it. In Oregon, data from the state's APCD was used by the Oregon Health Authority to compare access to care for dual-eligible Oregonians to access for fully insured populations.<sup>21</sup>

In Washington State, health officials have set their sights on reducing unnecessary and wasteful care. In a 2018 report titled "First, Do No Harm," the Washington Health Alliance used APCD data to track the utilization of 47 treatments known by the medical community to be overused.<sup>22</sup> The report uncovered potential waste of \$282 million. Washington has used this report to push medical professionals away from these low value services. Minnesota has also used its APCD to identify low-value health services that are not supported by research to drive down the use of these services.<sup>23</sup>

The Wisconsin Counsel on Medical Education and Workforce used the WHIO data to determine future demand for primary care physicians and compared this information to the projected supply. (Figure 7) This report determined that across all health services areas, Wisconsin will need an additional 20.4% primary care physicians by 2035.<sup>24</sup>

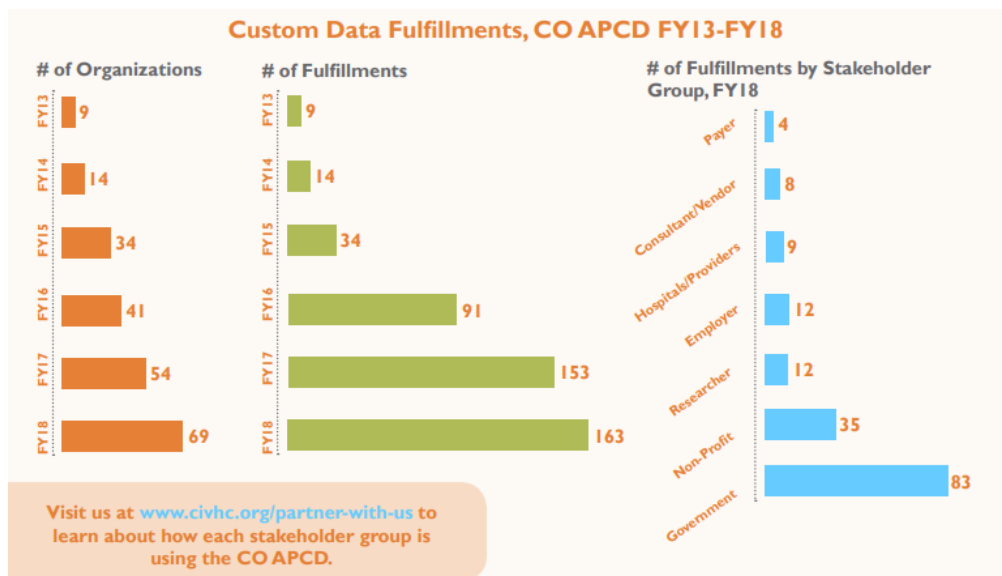


**Figure 7** Snapshot of Outagamie County's projected increase in demand for PCP services from "Mapping Our Way to Success".<sup>[24]</sup>

## Data to Support Research and Large-scale Improvement

Information does not need to be public to be impactful. APCDs provide health services researchers data that contribute to a broader understanding of the health care ecosystem to drive progress. The University of Wisconsin Health Innovation Program facilitates the use of WHIO data by health services researchers. Examples of recent studies include two studies titled, "Reducing major amputations for rural patients with diabetic foot ulcers: the who's and how's of integrated care" and "Medicaid vs. private insurance for near-poor adults." The Surgical Collaborative of Wisconsin uses the WHIO data to measure baseline performance and monitor topic specific improvement projects and the Wisconsin Collaborative for Healthcare Quality has used the WHIO data to identify priority conditions for its improving health care value initiative.

CIVHC has seen growing demand for its datasets, as year-over-year growth in data requests has been robust as seen in figure 8, below.<sup>25</sup>



**Figure 8** Growing demand for datasets from Colorado’s APCD, CIVHC.

## Opportunities for Wisconsin

Wisconsin health care stakeholders know that even in a state that consistently ranks in the top ten in overall health care quality, variation in access, efficiency, cost and outcomes persists. **APCDs enable state government, private sector stakeholders and researchers to assess variations in the quality, utilization, access and cost of health care services and shine a light on underlying causes so that large scale improvements can be realized.**

Wisconsin health care stakeholders, including the State of Wisconsin, have invested in developing and using the WHIO for purposes like those described above. Over time, many insurance companies and the state’s Medicaid program have voluntarily chosen to submit their data to support this state-wide information asset or are doing so through the ETF contract requirement.

As Wisconsin’s health care system continues to evolve through innovative care models and the implementation of value based payment programs, complex analyses of the WHIO’s “big data” are fundamental to understand how patients are accessing the health care system, how provider practice patterns are or are not evolving to deliver better value to consumers, how new payment models are impacting care outcomes and the role of informed consumers to garner the care they desire. **Investing in WHIO’s analytic capabilities will drive greater healthcare value across Wisconsin.**

To learn more about how the WHIO’s information can help improve healthcare in Wisconsin please contact:  
[info@whio.org](mailto:info@whio.org) | 608.442.3876



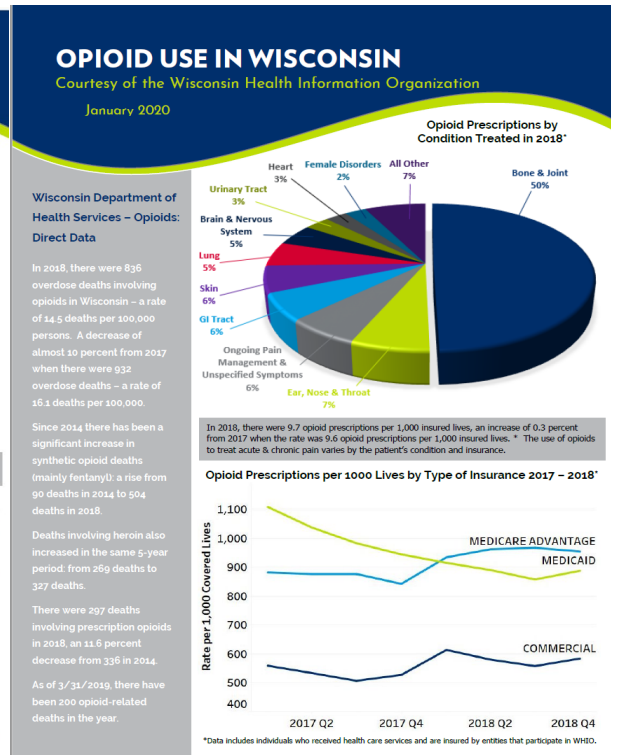
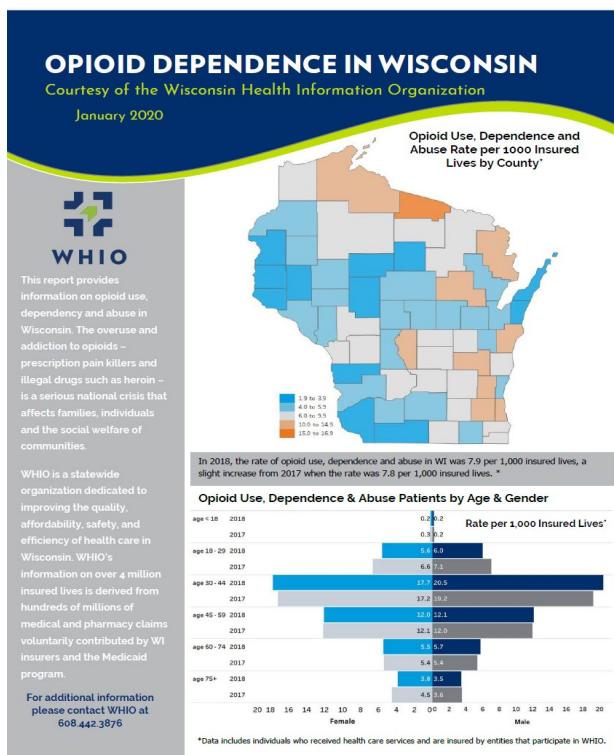
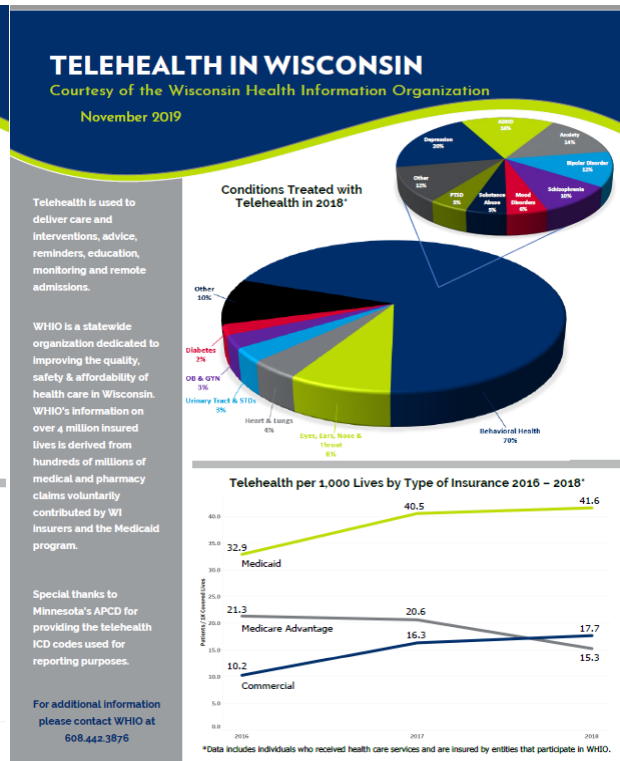
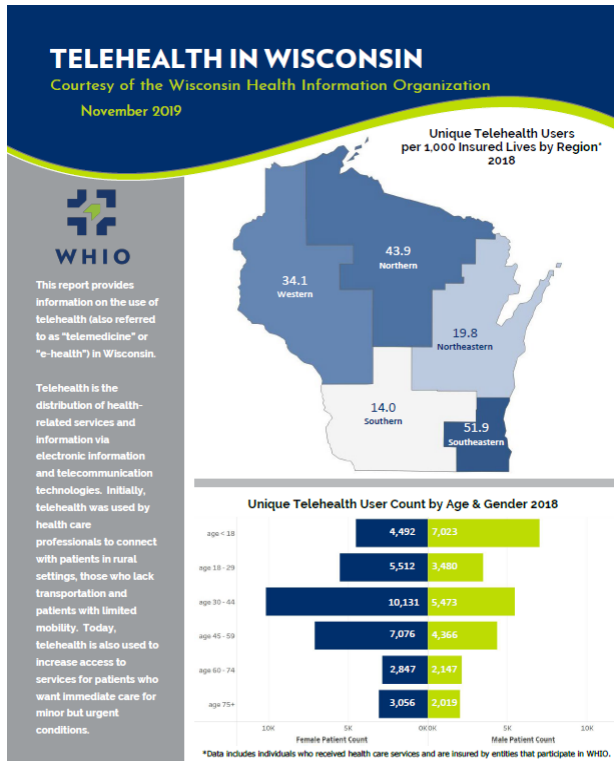
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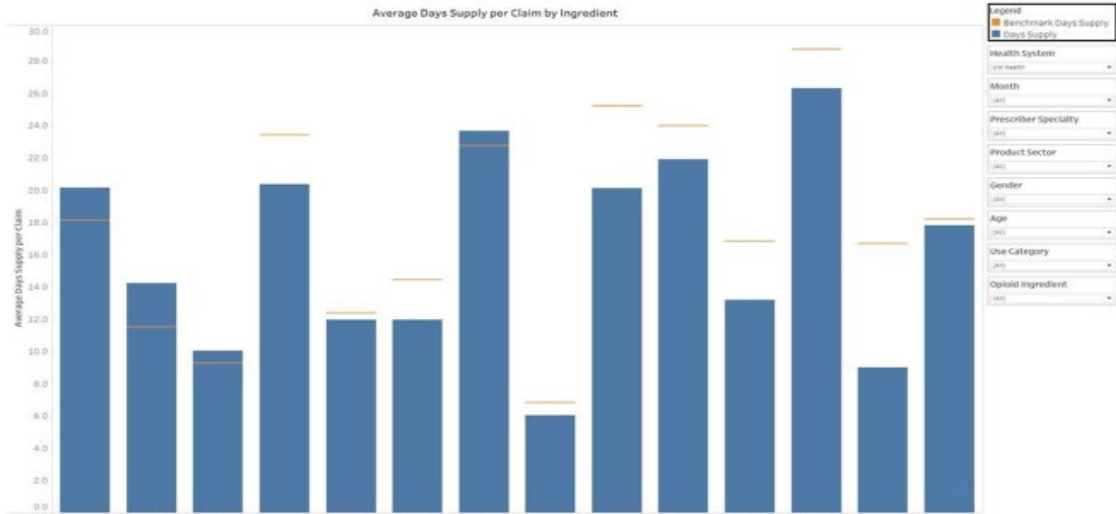
# Appendix B: WHIO 2.0 Report Examples

InfoBytes: Available to the public

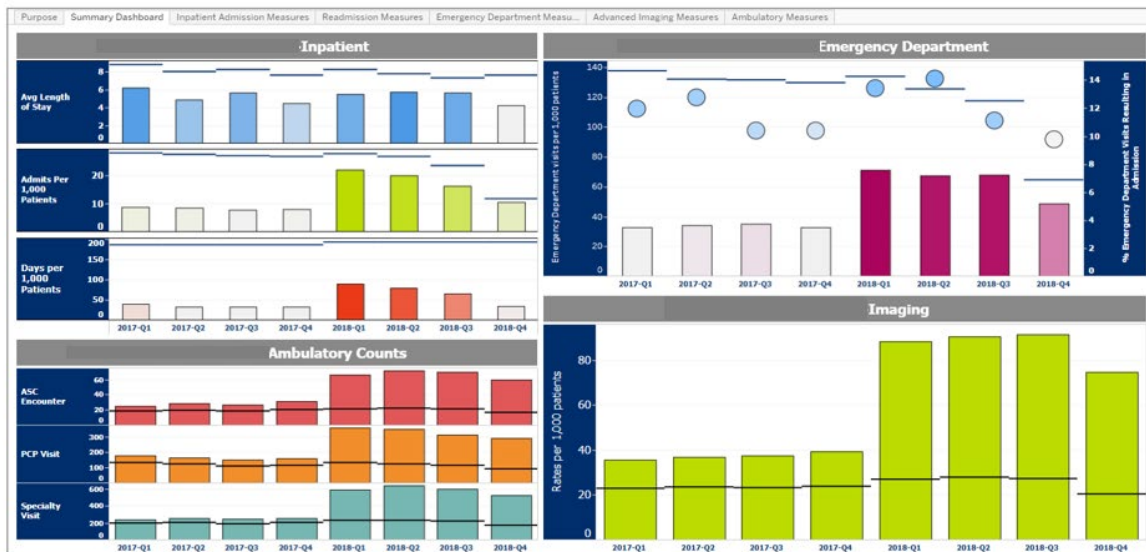


# Applied Insights: Available to providers and insurance companies

## Opioid Prescribing Patterns



## Inpatient and Outpatient Performance



## Pharmacy Utilization

