



Wisconsin **Medical Society**
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WI Health Improvement Zone – Care Improvement Dialogues (WHIZ-CIDs)

Cardiology Session #1

February 16, 2011

**The Center for Medical Practice Research
and Education**

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Goals for **WHIZ-CIDs** :

- Improve patient care
- Inform physicians of the
 - **cost** of items we order and
 - **variation** in their use
- Physicians publicly take a stand to identify and reduce practice variation
 - Identify opportunities to that may also be eligible for PI-CME



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Overview of Sessions

- Background
- Cardiology Overview
- Angioplasty Overview
- Appropriate Use Criteria



Housekeeping

- Introductions
- Ground Rules
- Agenda



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Suggested Ground Rules

- Candor with Respect – discuss the elephants in the room – no meeting after the meeting
- Right for everyone to be heard, careful not to monopolize
- Right to decline to speak
- This session is recorded



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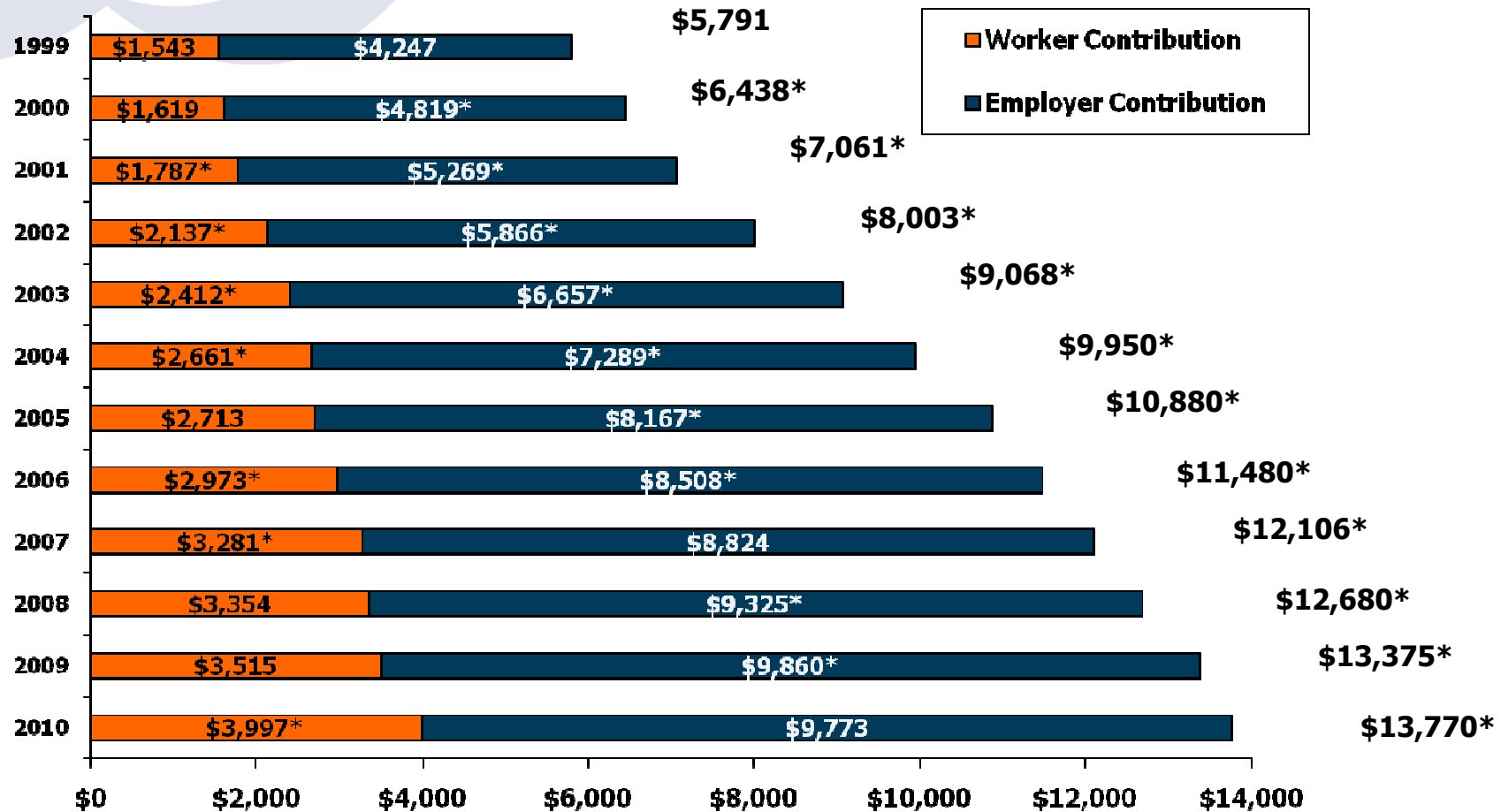
Proposed Schedule

- 7:02 Intro to Sessions
- 7:08 Background
- 7: 15 DMV 4 Overview
- 7: 25 Cardiology Overview
- 7:40 Angioplasty Introduction
- 7:50 Plan for next mtg



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Average Annual Worker and Employer Contributions to Premiums and Total Premiums for Family Coverage, 1999-2010

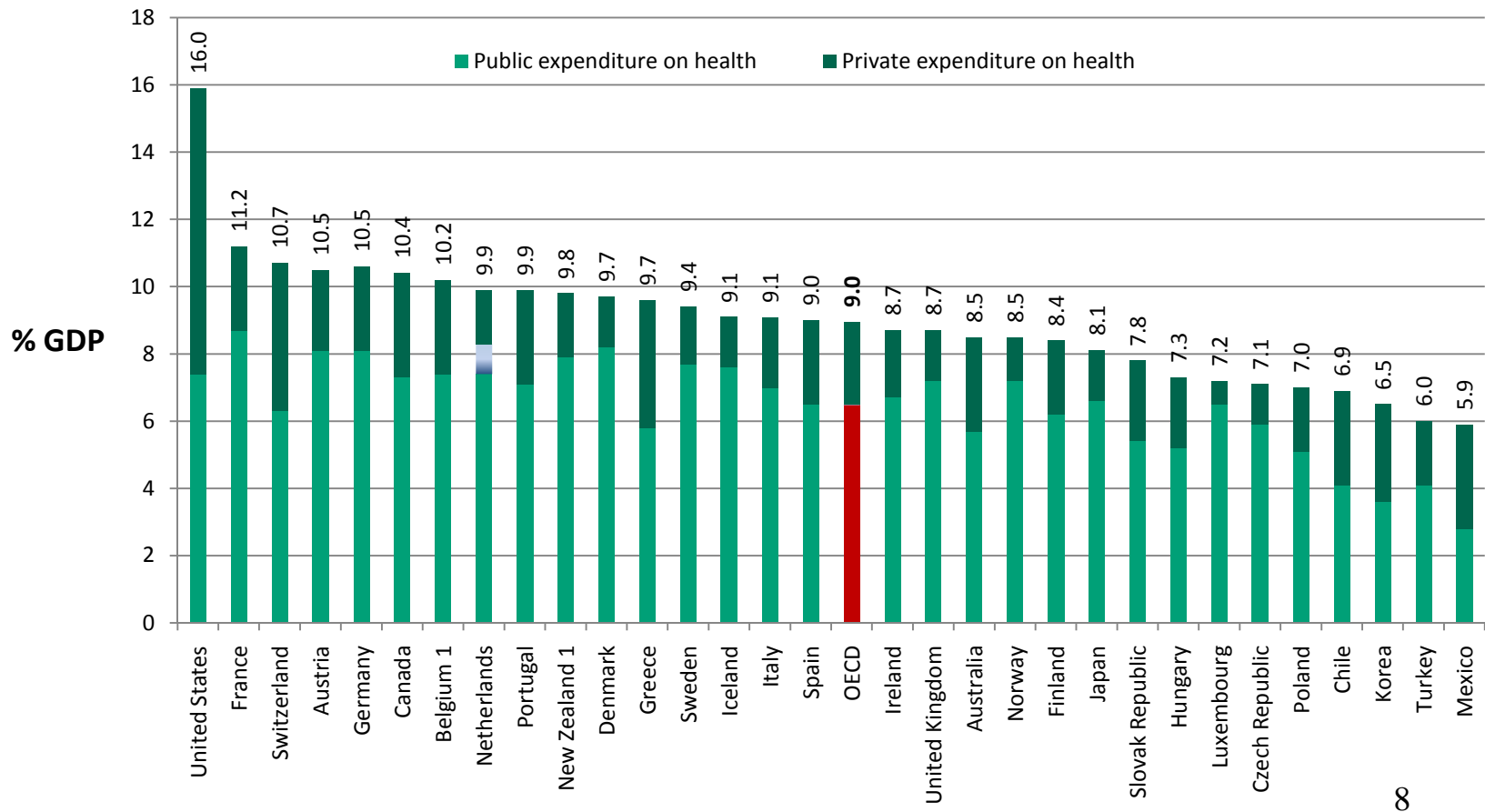


* Estimate is statistically different from estimate for the previous year shown ($p < .05$).

Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999-2010.



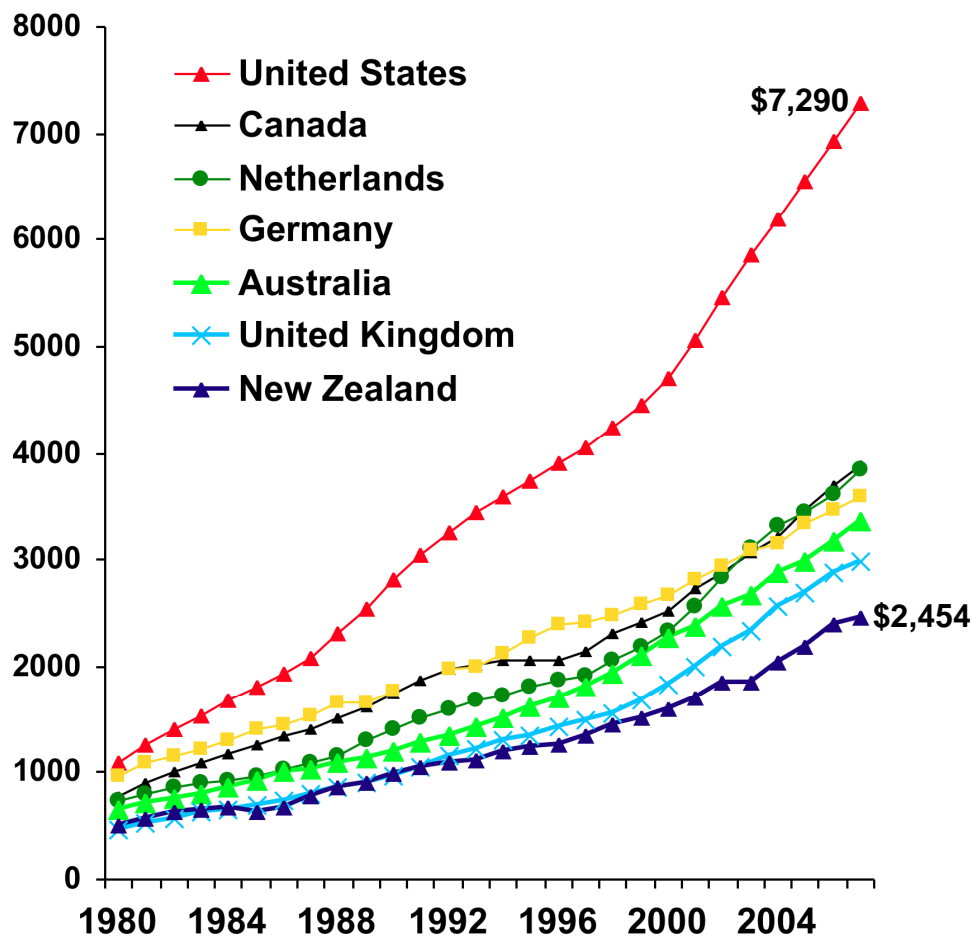
Health expenditure as a share of GDP, 2008 (or latest year available)



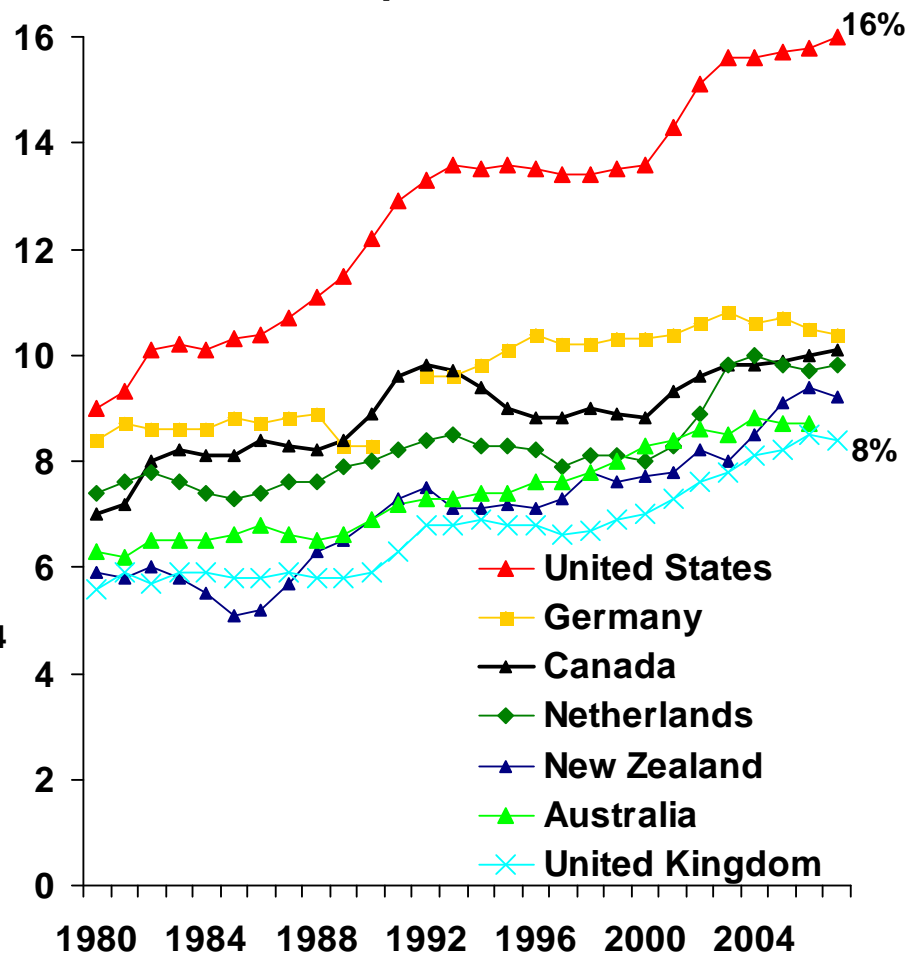
1. Current expenditure. Source: *OECD Health Data 2010*.

International Comparison of Spending on Health, 1980–2007

Average spending on health per capita (\$US PPP)



Total expenditures on health as percent of GDP



Note: \$US PPP = purchasing power parity.

Source: Organization for Economic Cooperation and Development, *OECD Health Data, 2009* (Paris: OECD, Nov. 2009).

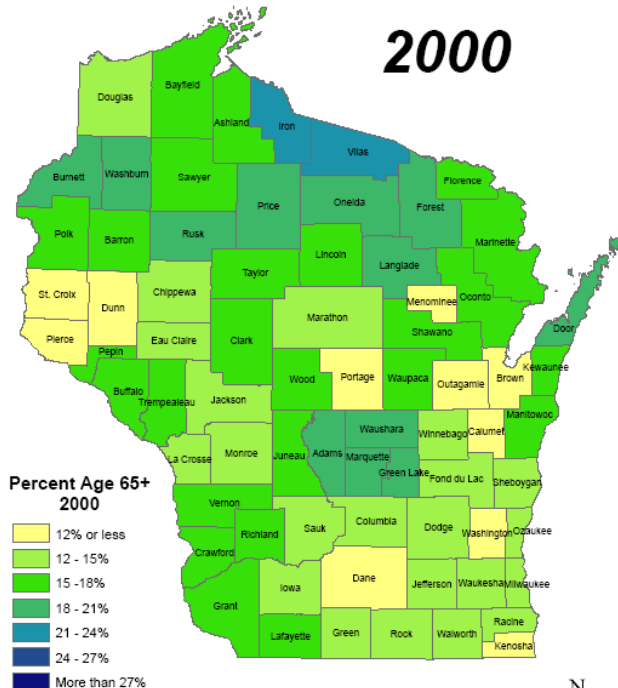


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Like Others, WI Population Grows Older...and Will Need Intense Resources

Percent of the Population Age 65+

2000

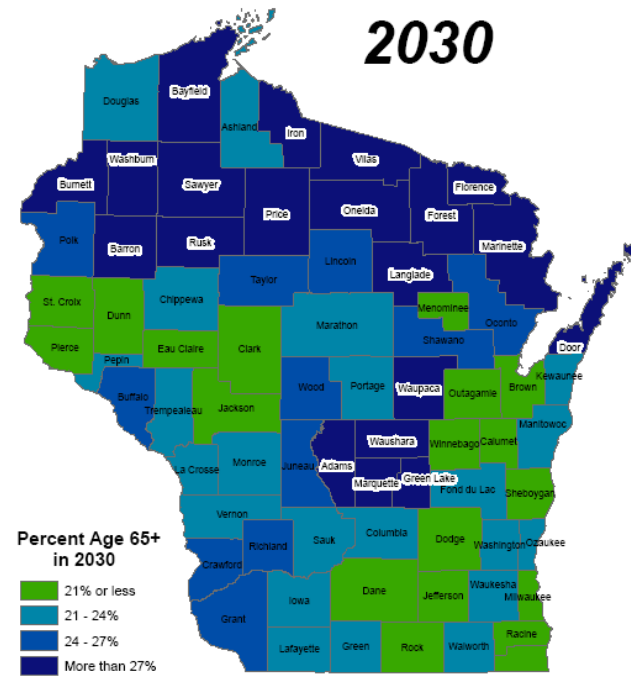


0 20 40 80 Miles

Source: U.S. Bureau of the Census, Census 2000.
Prepared by Cindy Ofstead, DHFS Bureau of Aging and Disability Resources

Percent of the Population Age 65+

2030

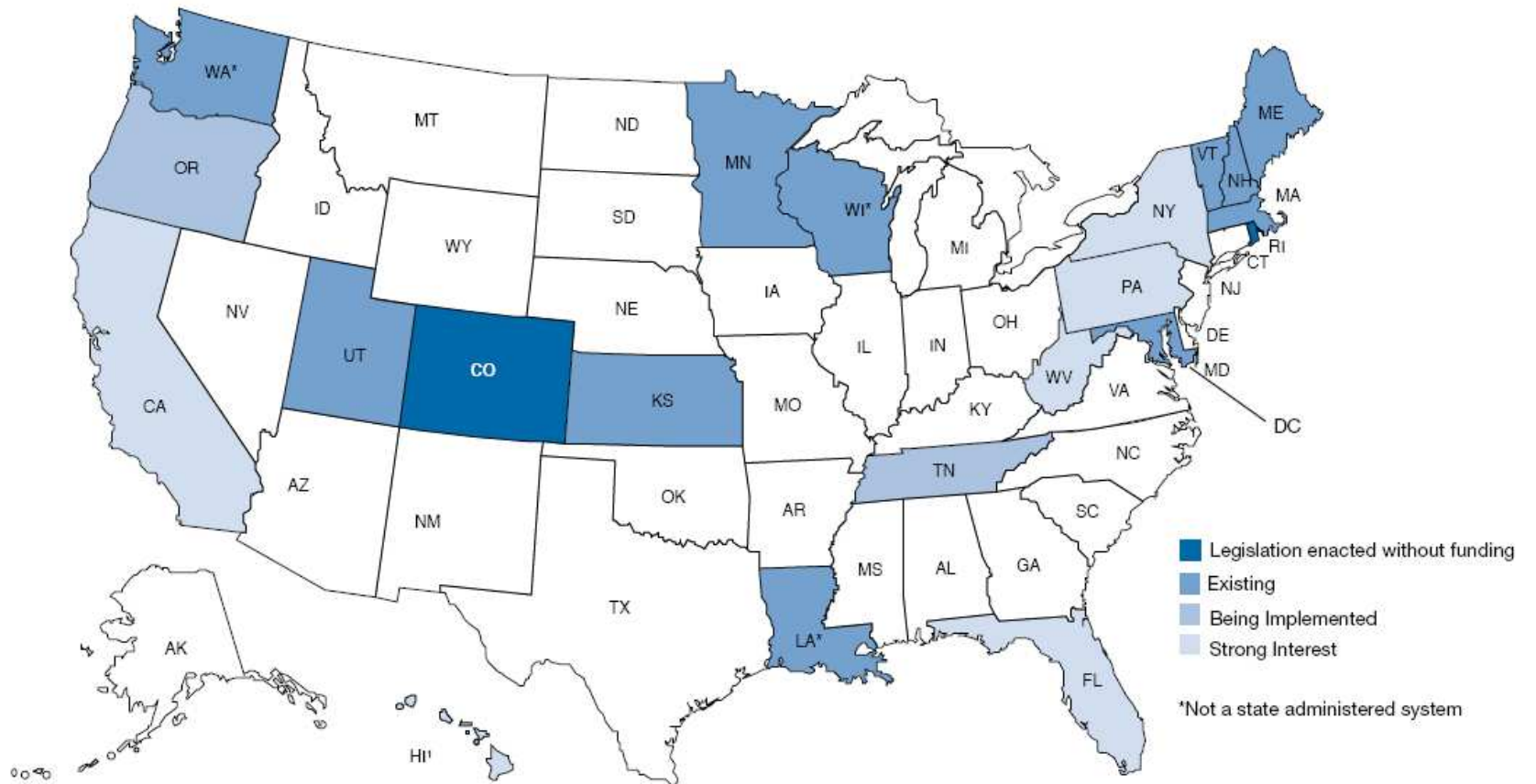


0 20 40 80 Miles

Source: WI DOA Demographic Services, Population Projections
Prepared by Cindy Ofstead, DHFS Bureau of Aging and Disability Resources



Figure 1: Status of All-Payer Claims Databases as of May 2010





Original WI Health Information Organization Stakeholders, *Voluntary Private-Public Partnership*, 2005

Purchasers

Business Health Care Group
The Alliance
Employee's Trust Fund (State
Employees)

Providers

WI Medical Society
WI Hosp Association
WI Collaborative for
Healthcare Quality

Payers

Humana
United
Anthem
WI Physician Services
WI Education Assn Trust

State

Dept of Health Services



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WHIO Members and Subscribers Circa 2010

- **The Alliance**
- **Anthem Blue Cross and Blue Shield of Wisconsin**
- **Greater Milwaukee Business Foundation on Health**
- **Humana**
- **United Healthcare of Wisconsin**
- **WEA Insurance Trust**
- **WPS Health Insurance**
- **Wisconsin Collaborative for Healthcare Quality**
- **Wisconsin Hospital Association**
- **Wisconsin Medical Society**
- **Wisconsin Department of Employee Trust Funds**
- **Wisconsin Department of Health Services**
- **Aspirus**
- **Aurora**
- **Bellin Health**
- **Dean Health Plan**
- **Group Health Cooperative South Central Wisconsin**
- **Gundersen Lutheran Health Plan**
- **Health Tradition Health Plan**
- **MercyCare Insurance**
- **Network Health Plan**
- **Physicians Plus Insurance**
- **Prevea Health Plan**
- **Security Health Plan**
- **ThedaCare**
- **UW – Population Health**



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New Data Mart Version (DMV) Every 6 Months

DMV 1	DMV 2	DMV 3	DMV 4
3 Dec 2008	7 Aug 2009	14 Apr 2010	31 Oct 2010
1.52 M	1.63 M	2.6 M (with 550K Medicaid)	3.4 M (1.2 M Medicaid) 58% of WI Residents
\$7.6 B	\$9.6 B	\$18.65 B	\$29 B



“The Specialist” is 8 to 15% of Resource Use for These Expensive Areas. Can Physicians Judiciously Authorize the Other 85%? DMV2

Maj Practice Category	Episode Treatment Group	Specialist	Tot Std Cost	%	Hosp, Inpt & Outpt
Orthopedics	Jt Degen, Knee and Lower Leg	\$10 M	\$66.6 M	15.0%	\$47.3 M
Cardiology	IHD with Angioplasty	\$ 8 M	\$63.1 M	12.7%	\$48.2 M
Gastroenterology	Inflam of Esoph w/o Surg	\$ 3.4 M	\$41.7 M	8.2%	\$15.8 M
Behavioral Health	Mood Disorder, Depressed	<u>\$ 6.5 M</u>	\$79.2 M	8.2%	<u>\$11.6 M</u>
Total		\$27.9 M			\$122.9 M



Desired Outcomes *of The Center For Medical Practice Research and Education*

1. Raising the expectation that it is the **citizen's DUTY to keep themselves well**, with a patient-centered team
2. When people are not well, **employ evidence-based appropriate use criteria for care**
<http://www.cardiosource.org/Science-And-Quality/Quality-Programs/Imaging-in-FOCUS/Webinars-and-Case-Studies.aspx>, choose first webinar
3. **Publication and Implementation of “value-focused best practice”** by physicians – reduction of cost variation



NY Times

January 4, 2011

Many Defibrillators Implanted Unnecessarily, Study Says

By [DENISE GRADY](#)

The researchers were surprised to find that more than 25,000 people — 22.5 percent of all those who got defibrillators — did not match the guidelines. Most of the patients were 64 to 68...At many centers, more than 40 percent of the devices went to patients outside the guidelines.

“I didn’t expect the rate to be that high,” said [Dr. Sana M. Al-Khatib](#), an associate professor of medicine at [Duke University](#) and the lead author of the study...

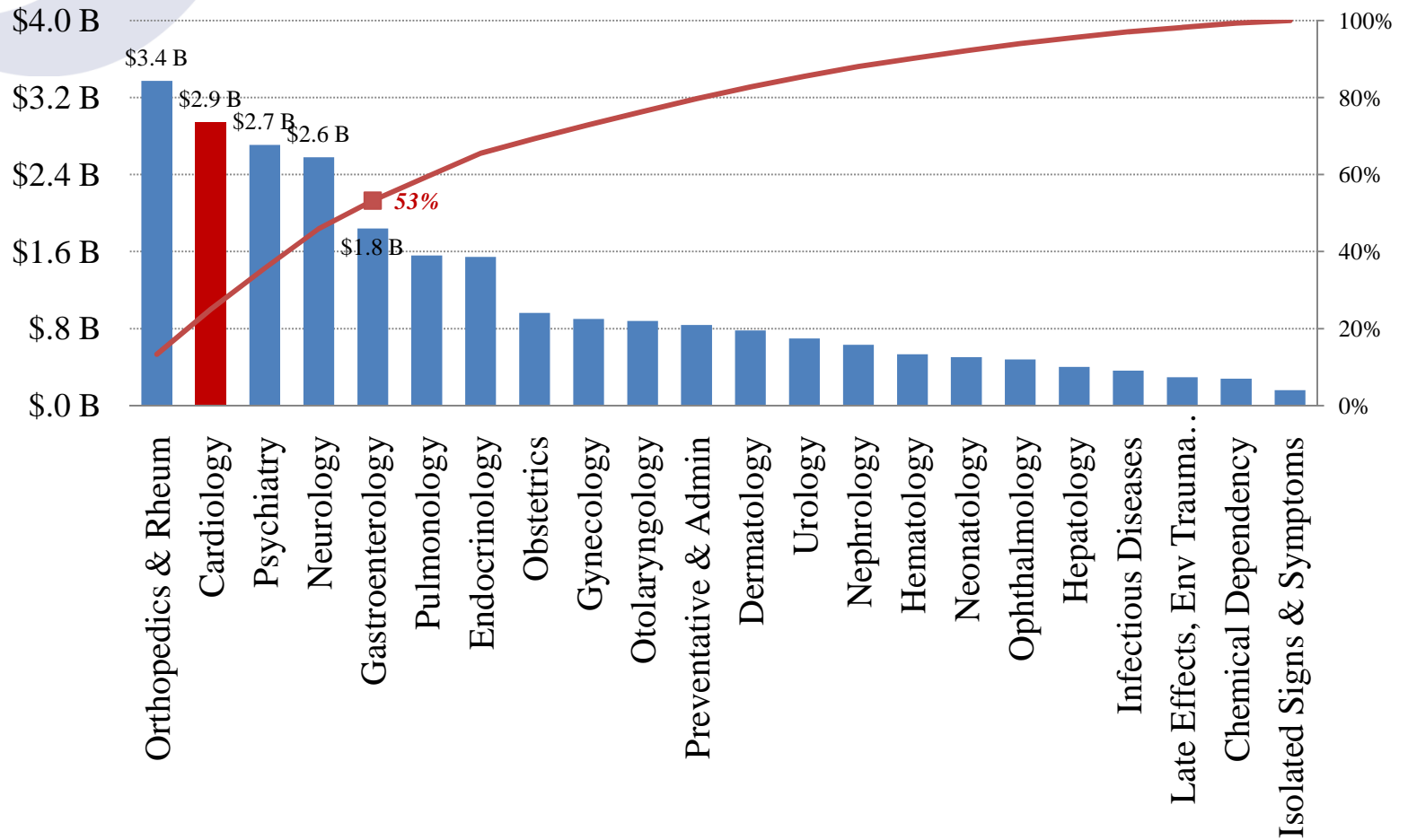
**TOTAL STANDARD COST
BY MAJOR PRACTICE CATEGORY,
\$28.9B, 3.4M People (58% of WI RESIDENTS)
WHIO DMV4**

DMV4

Major Practice Categories	Total Standard Cost	% of Total
Orthopedics and Rheumatology	\$ 3,373,806,944	11.7%
Cardiology	\$ 2,940,528,293	10.2%
Neurology	\$ 2,580,675,287	8.9%
Psychiatry	\$ 2,709,080,249	9.4%
Gastroenterology	\$ 1,841,539,620	6.4%
Pulmonology	\$ 1,559,188,045	5.4%
Ungrouped	\$ 1,635,528,626	5.7%
Endocrinology	\$ 1,545,286,195	5.3%
Obstetrics	\$ 963,126,924	3.3%
Otolaryngology	\$ 879,152,701	3.0%
Gynecology	\$ 898,660,000	3.1%
Preventative and Administrative	\$ 838,584,001	2.9%
Dermatology	\$ 779,448,423	2.7%
Urology	\$ 697,417,725	2.4%
Nephrology	\$ 631,325,752	2.2%
Hematology	\$ 533,348,779	1.8%
Ophthalmology	\$ 480,369,288	1.7%
Neonatology	\$ 503,598,786	1.7%
Hepatology	\$ 402,325,566	1.4%
Infectious Diseases	\$ 362,362,527	1.3%
Chemical Dependency	\$ 278,656,420	1.0%
Late Eff, Env Trauma & Poisonings	\$ 295,346,635	1.0%
Isolated Signs and Symptoms	\$ 161,248,025	0.6%
Unknown	\$ 2,008,646,507	7.0%
Grand Total	\$ 28,899,251,318	100.0%



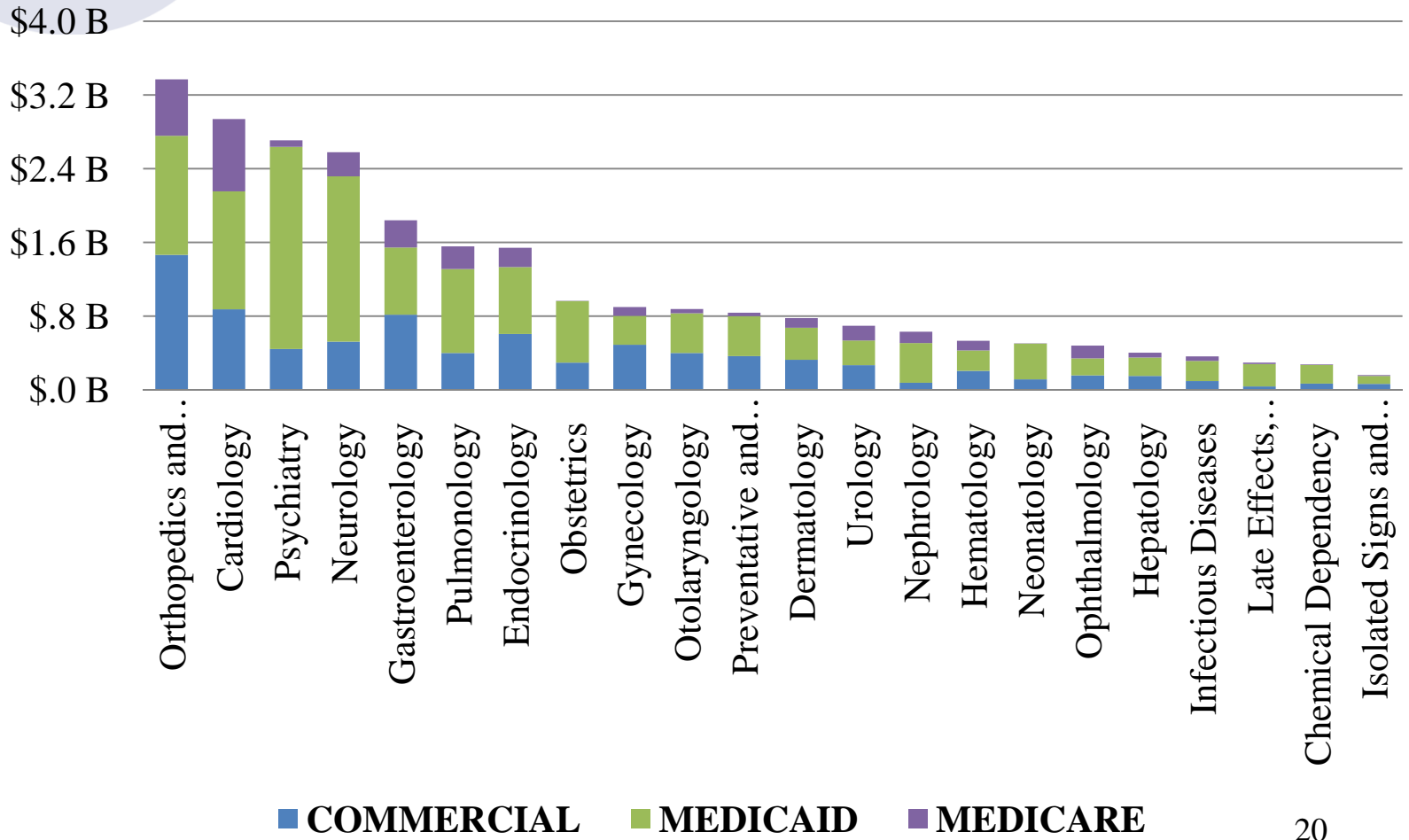
WHIO DMV4 TOTAL STANDARD COST: \$28.9 Billion



MAJOR PRACTICE CATEGORY

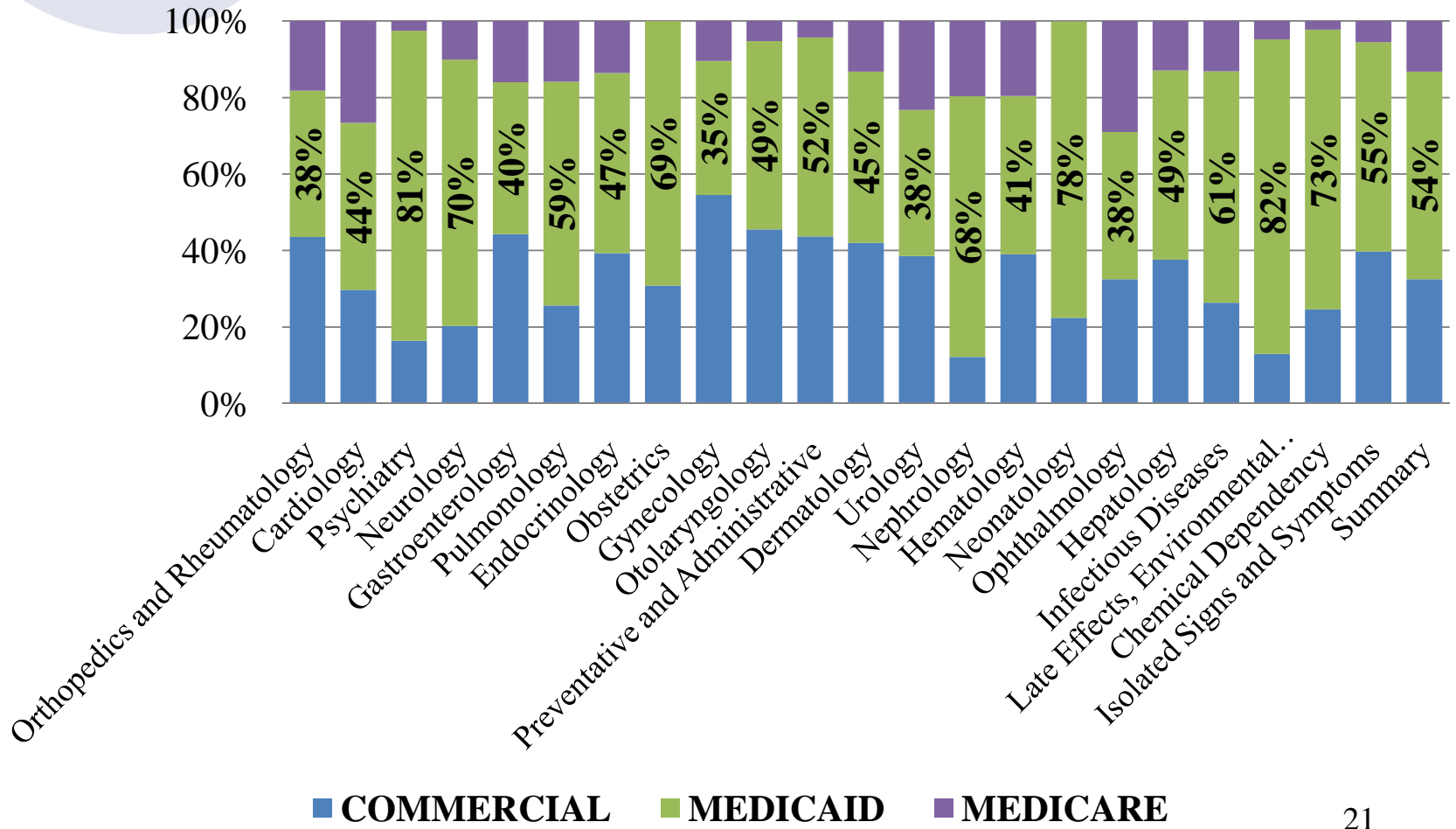


WHIO DMV4 TOTAL STANDARD COST DISTRIBUTION BY PRODUCT TYPE





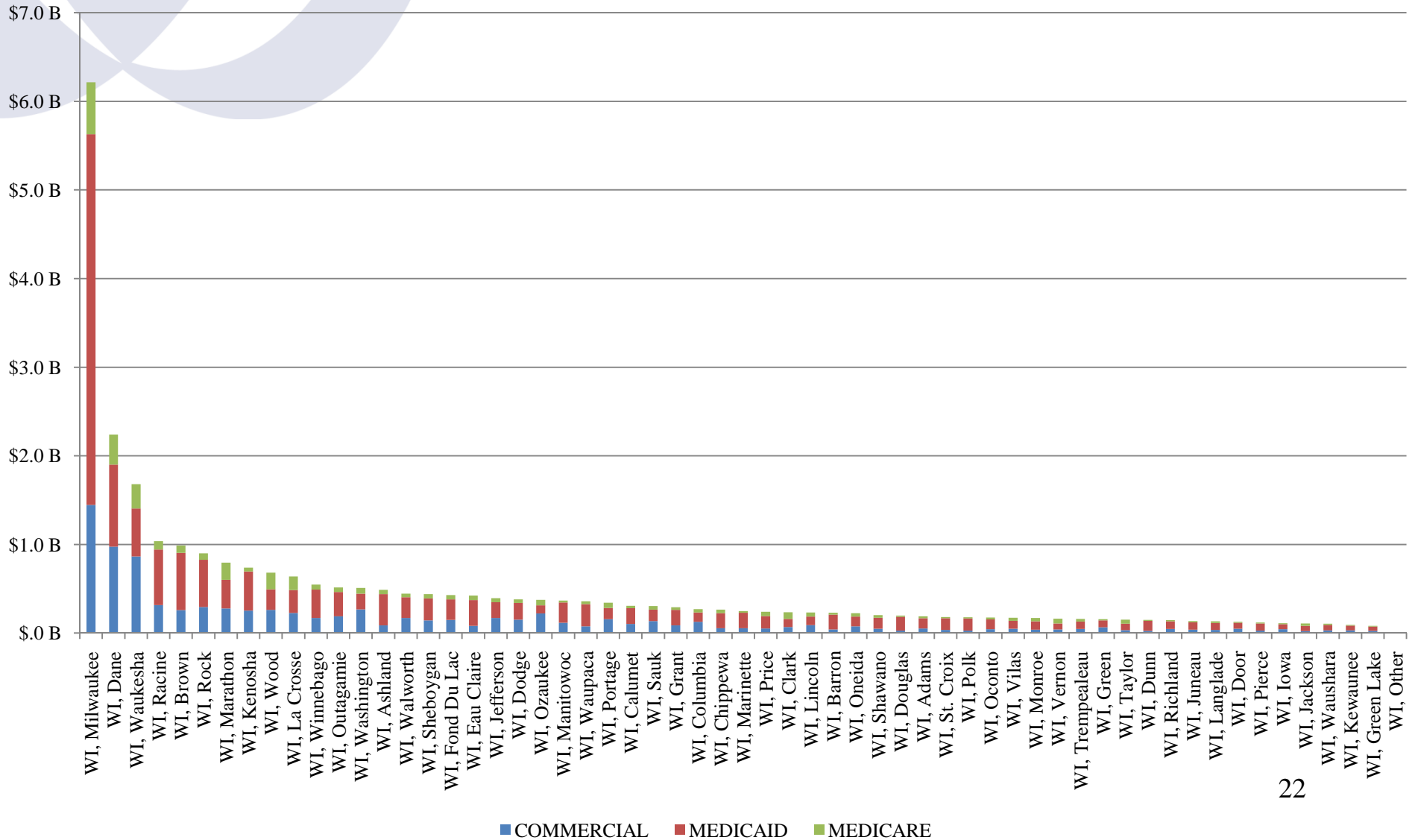
WHIO DMV4 TOTAL STANDARD COST PROPORTION BY PRODUCT TYPE





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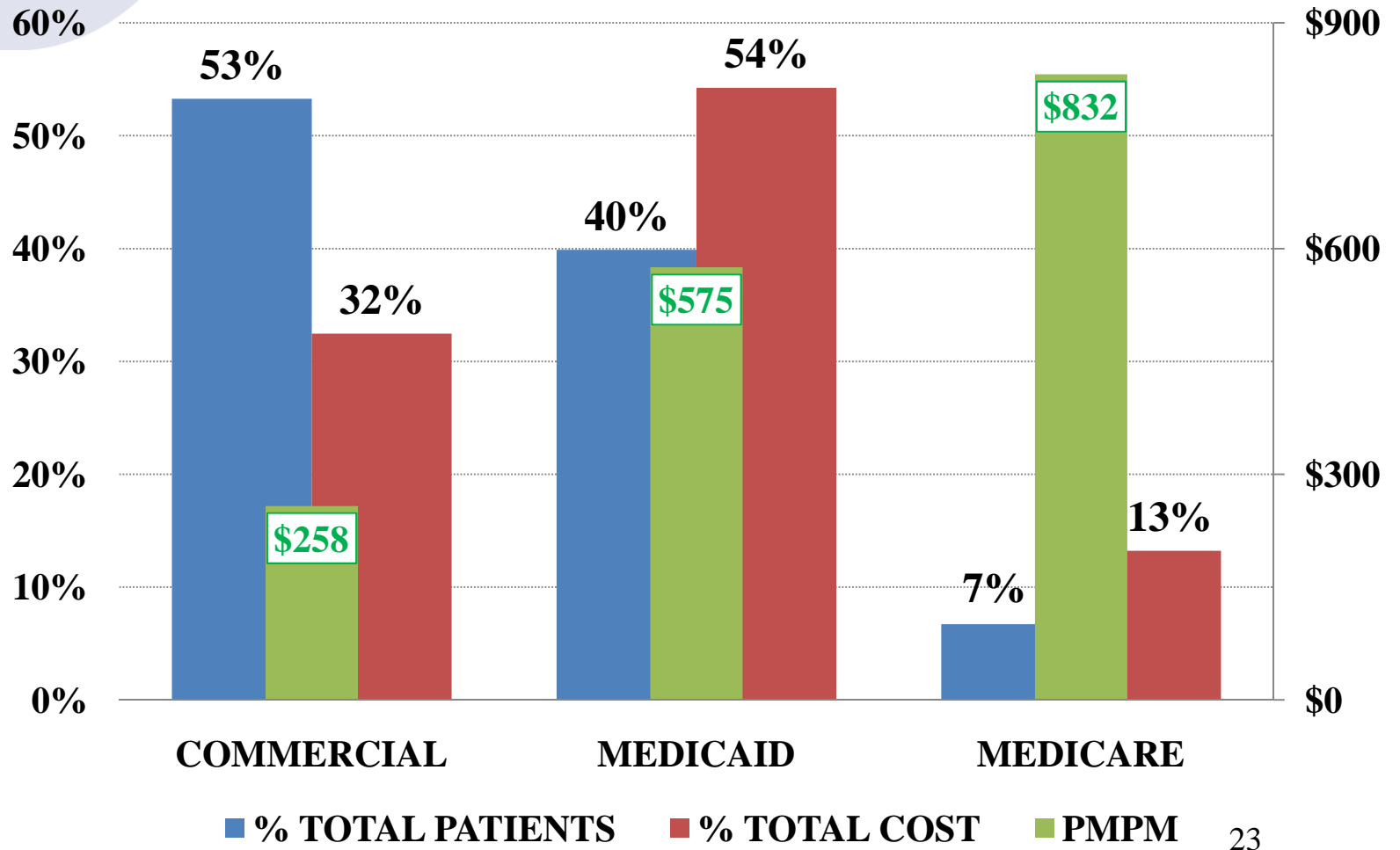
Total Standard Cost by County WHIO DMV4





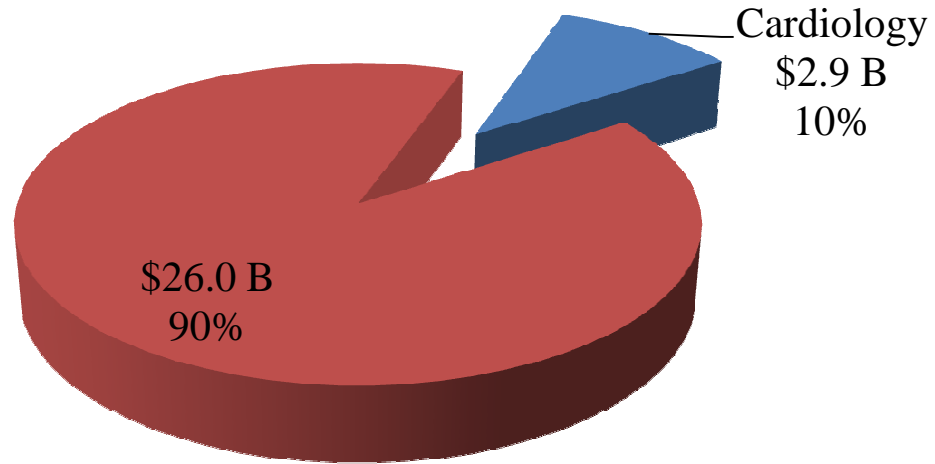
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WHIO DMV4 PATIENT AND COST DISTRIBUTION BY PRODUCT





CARDIOLOGY DMV4



	Year 1	Year 2	Lag	Two-year Total
Cardiology	\$1.5 B	\$1.4 B		\$2.9 B
All other MPCs	\$12.6 B	\$11.3 B		\$23.9 B
DMV4 Total	\$14.2 B	\$12.7 B	\$2.0 B	\$28.9B
Distinct Patients	2.9 mill	3.0 mill		



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CARDIOLOGY

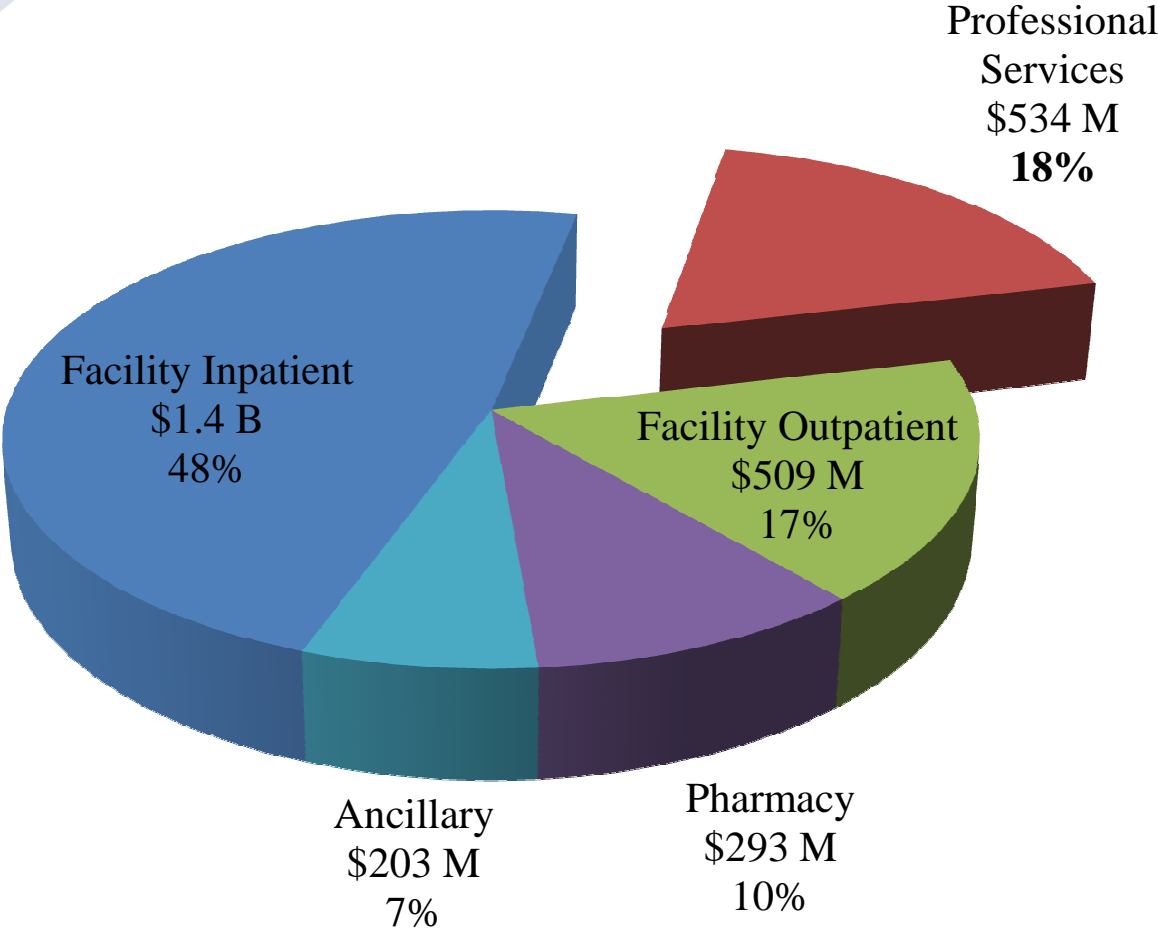
WHIO DMV 4

EPISODE COST DISTRIBUTION

BY TYPE OF SERVICE

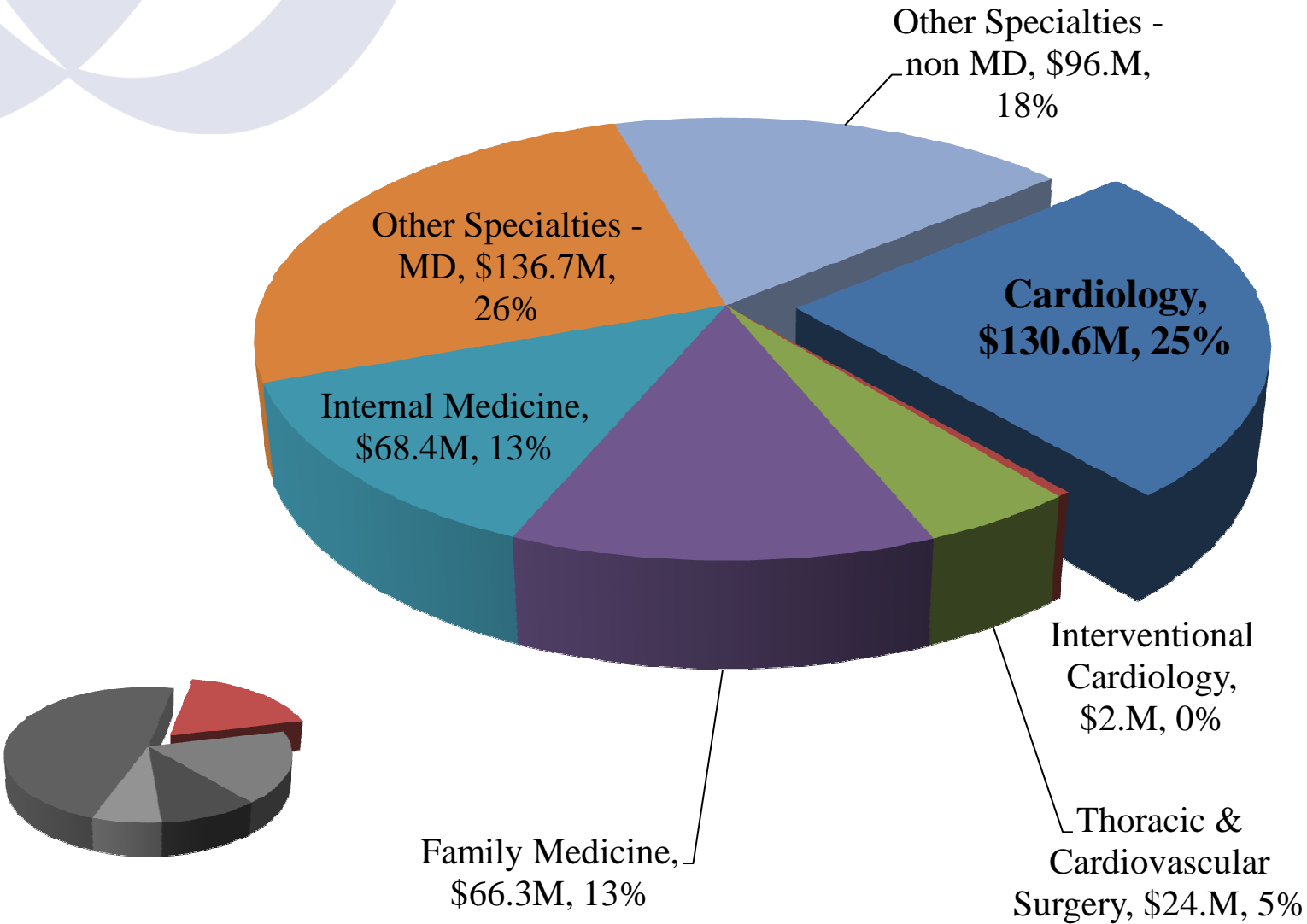


DMV4 CARDIOLOGY EPISODE COST DISTRIBUTION BY TYPE OF SERVICE



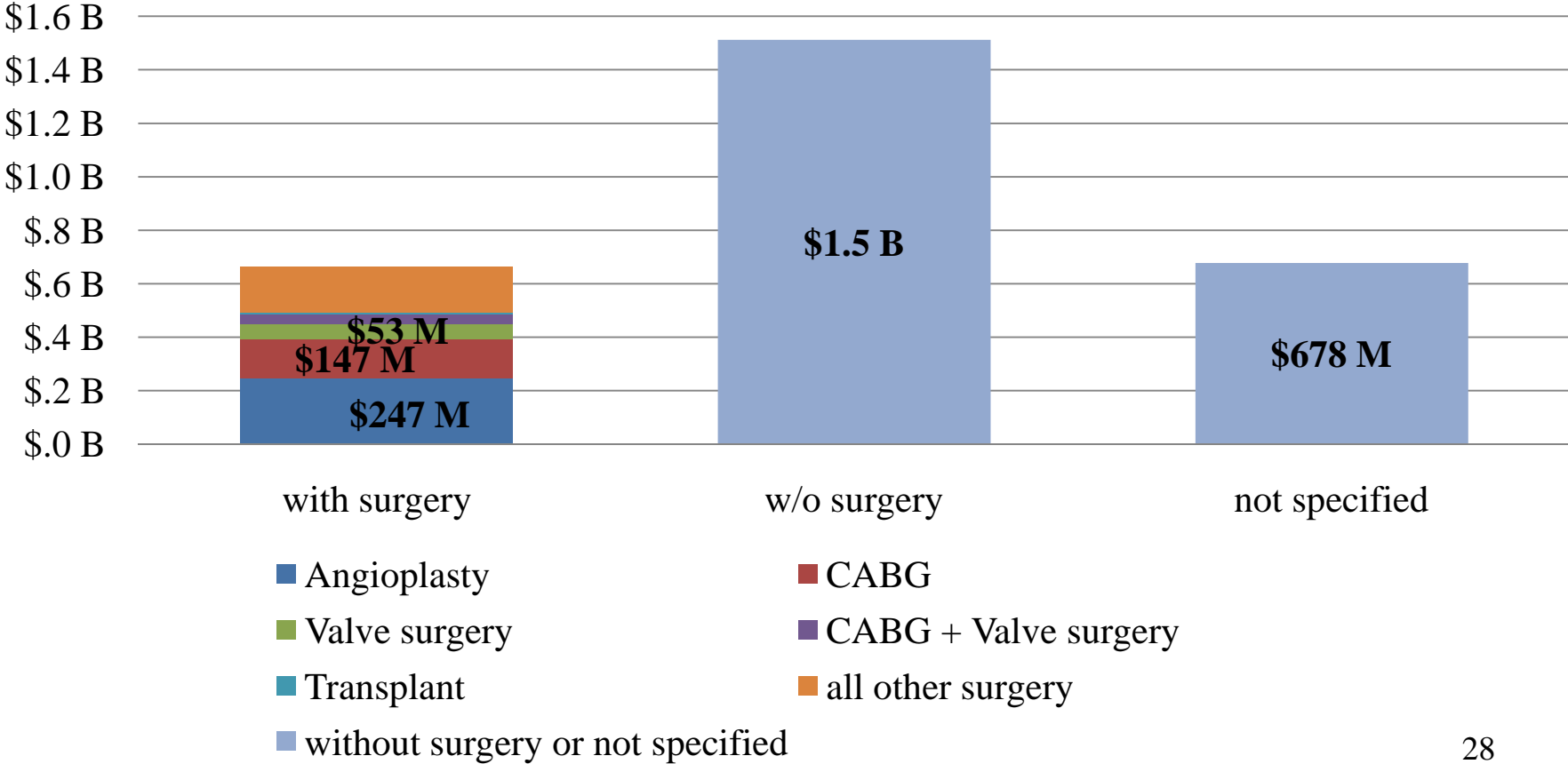


CARDIOLOGY MPC PROFESSIONAL SERVICES COST BY PROVIDER SPECIALTY WHIO DMV4



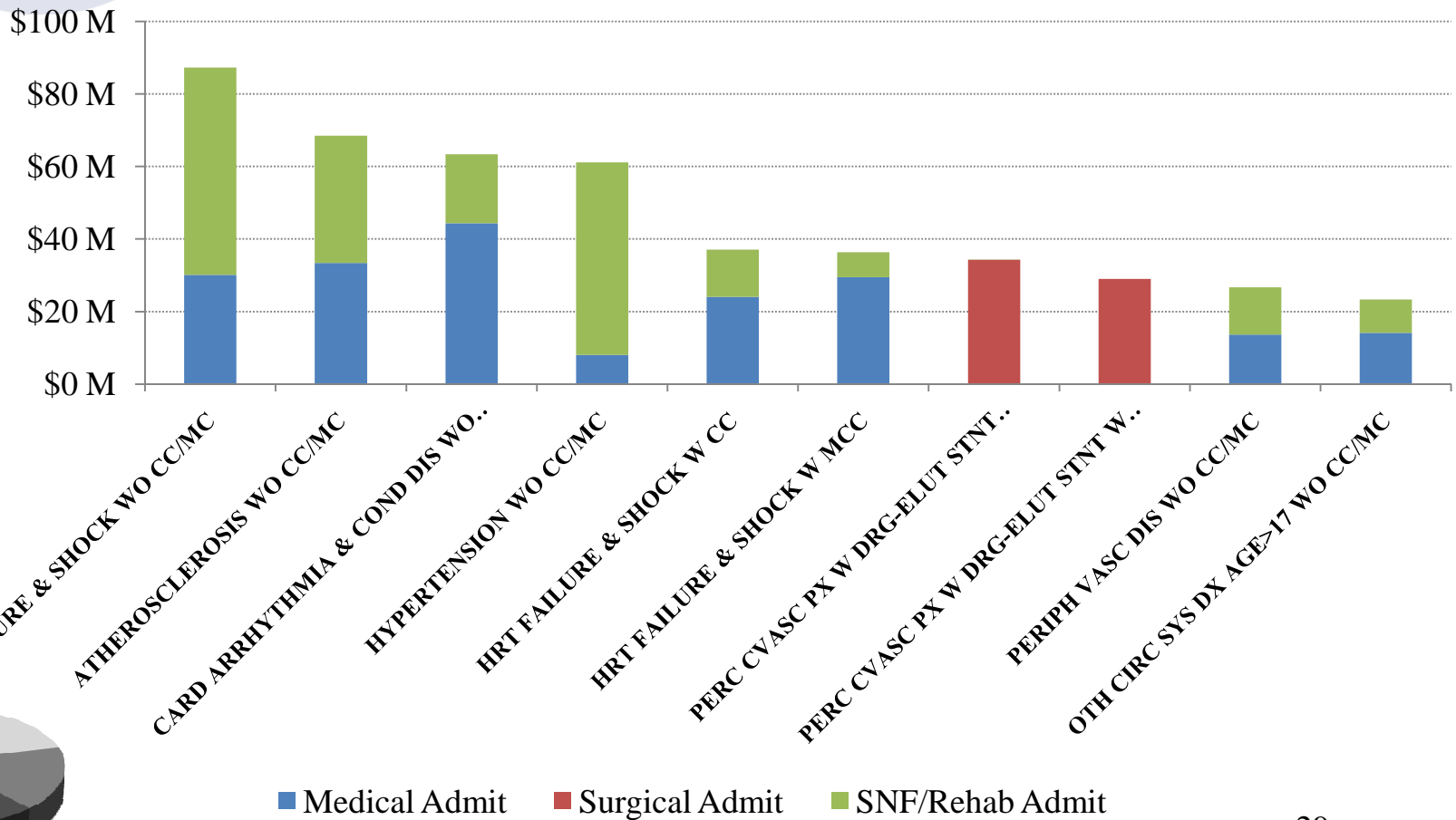


CARDIOLOGY MPC TOTAL STANDARD COST BY TYPE OF EPISODE SURGICAL VS. NON-SURGICAL WHIO DMV4



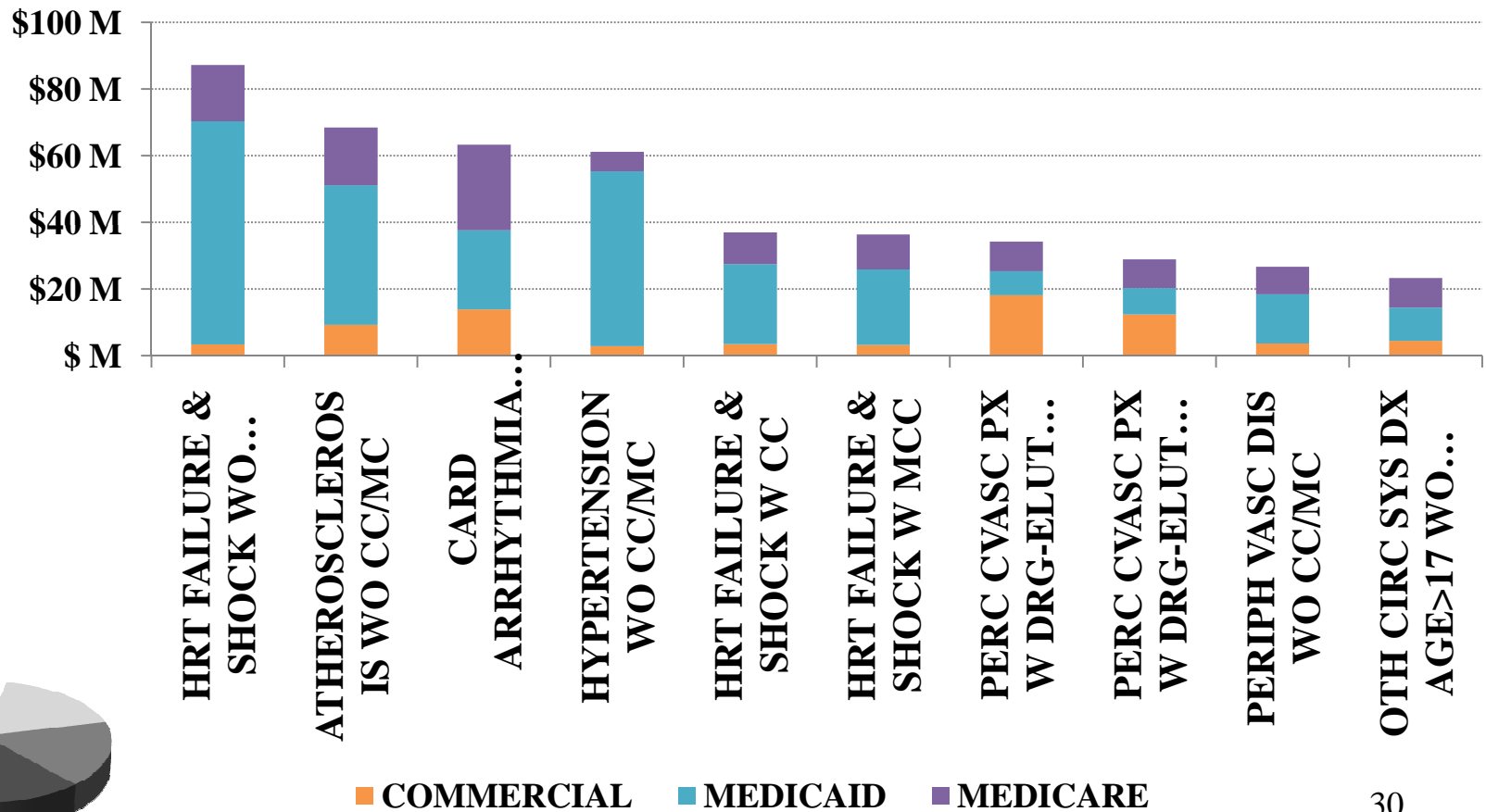


DMV4 CARDIOLOGY EPISODES FACILITY INPATIENT TOTAL COST TOP 10 DRGs BY ADMIT TYPE



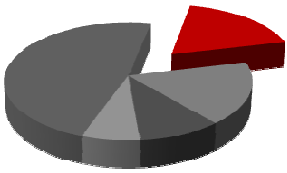
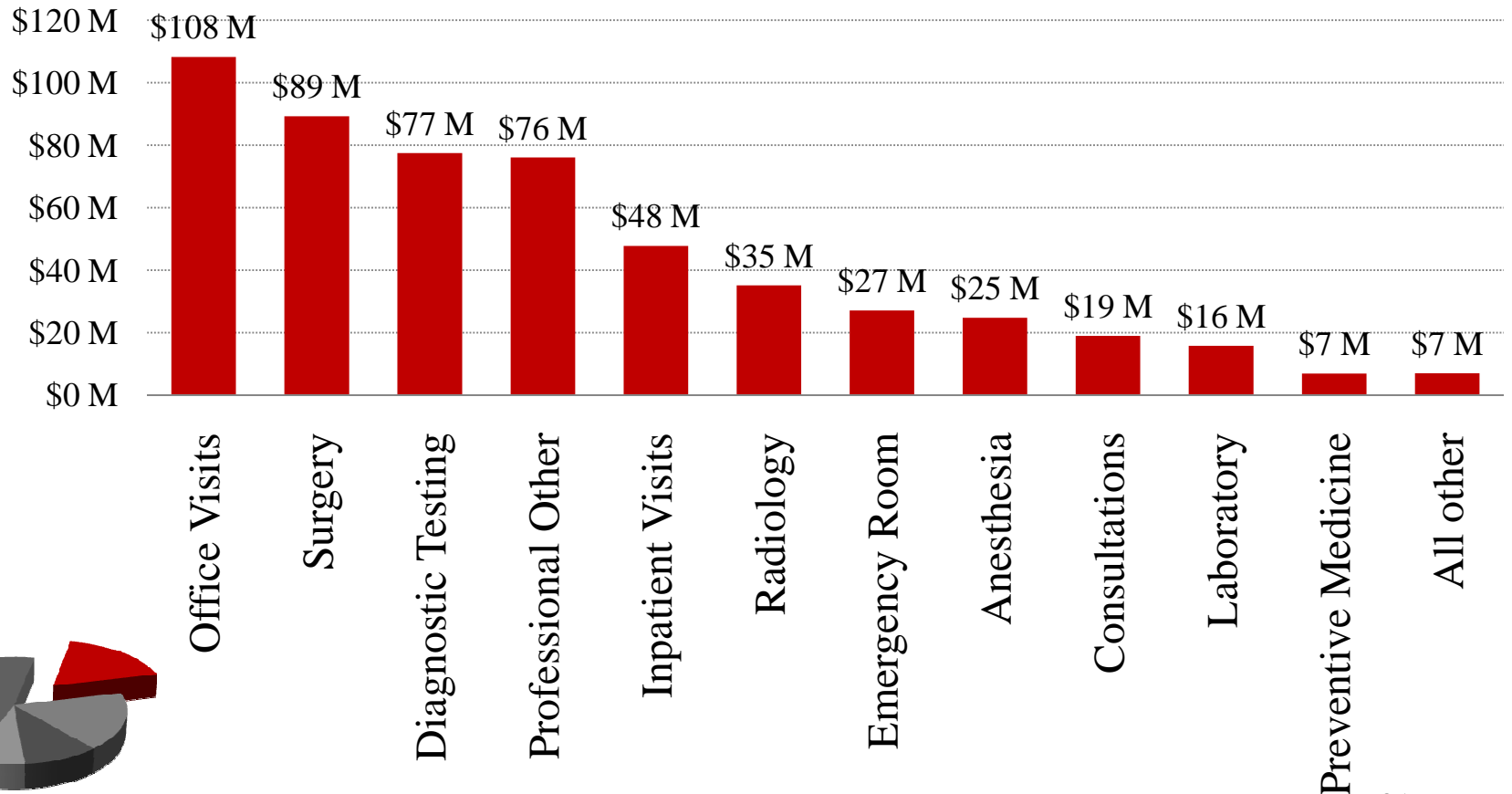


DMV4 CARDIOLOGY EPISODES FACILITY INPT TOTAL COST PAYER MIX TOP 10 DRGs BY ADMIT TYPE



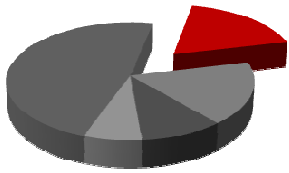
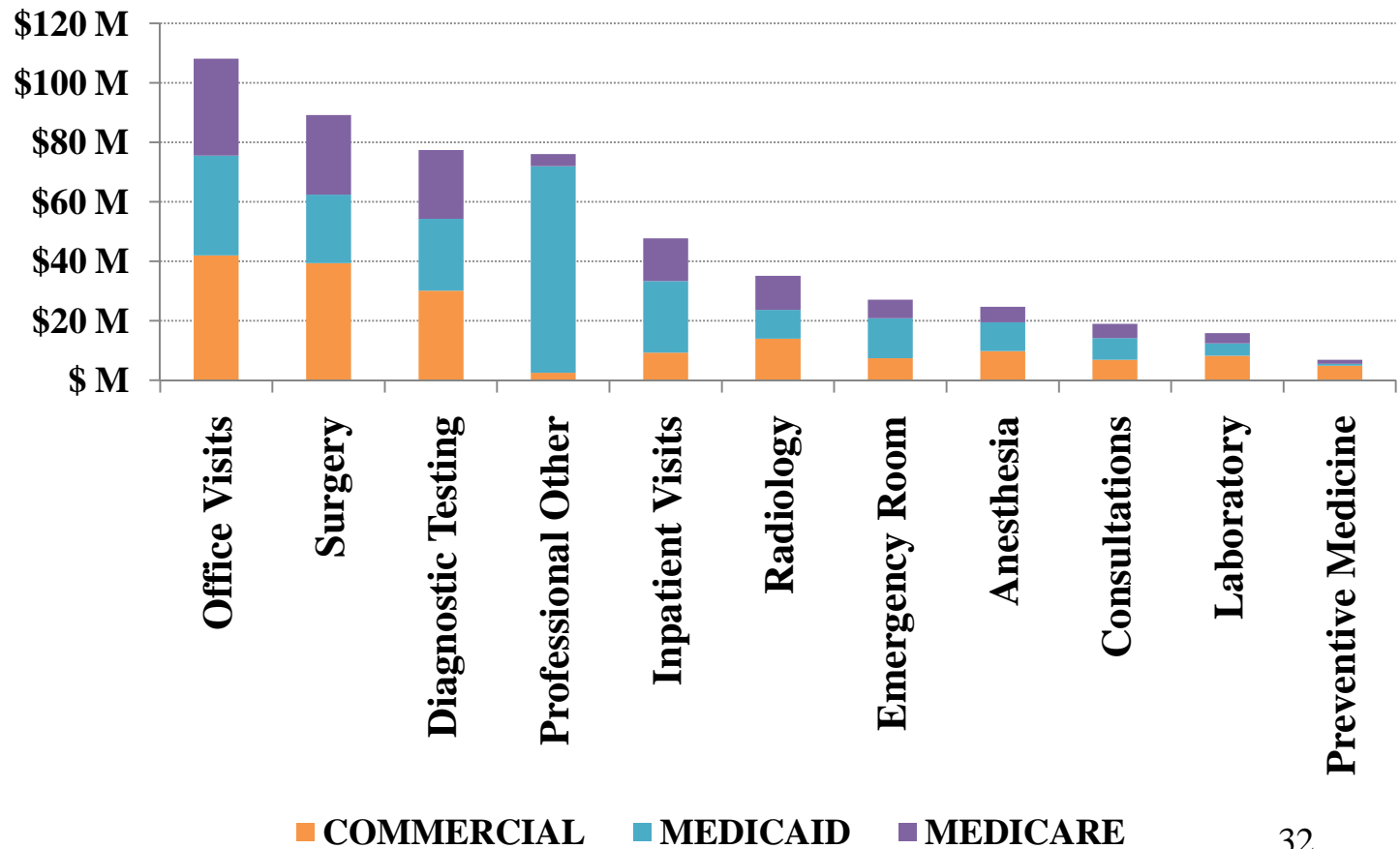


DMV4 CARDIOLOGY EPISODES PROFESSIONAL SERVICES TOTAL COST TYPE OF SERVICE LEVEL 2



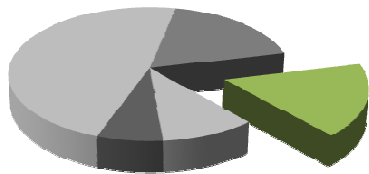
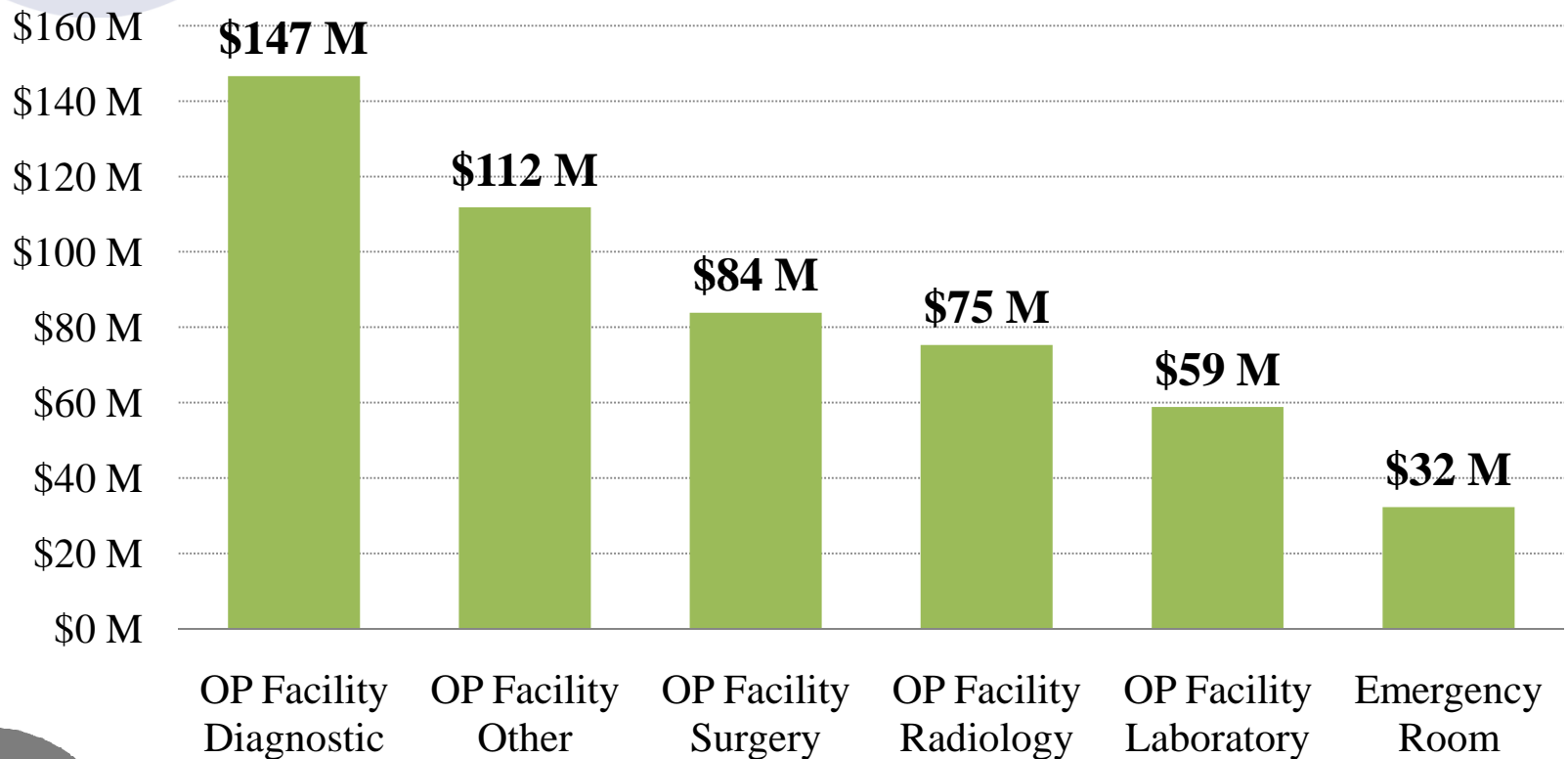


WHIO DMV4 CARDIOLOGY EPISODES PROFESSIONAL SERVICES **PAYER MIX** TYPE OF SERVICE LEVEL 2 TOTAL COST



■ COMMERCIAL ■ MEDICAID ■ MEDICARE

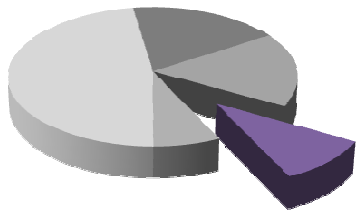
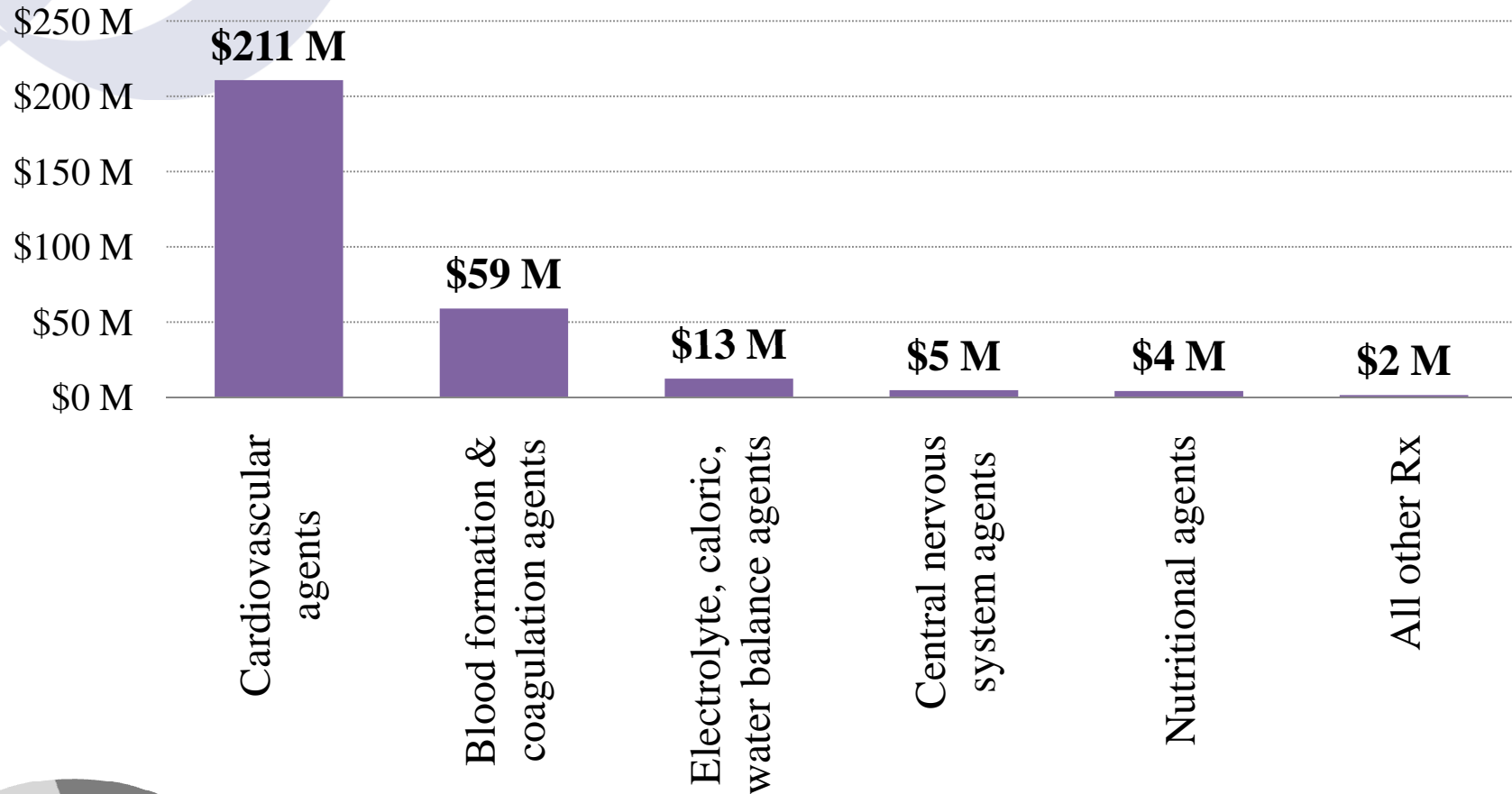
DMV4 CARDIOLOGY EPISODES FACILITY OUTPATIENT TOTAL COST TYPE OF SERVICE LEVEL 2





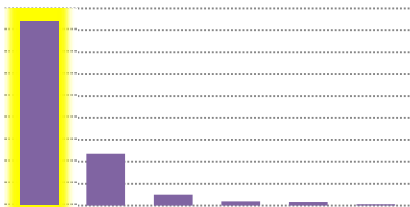
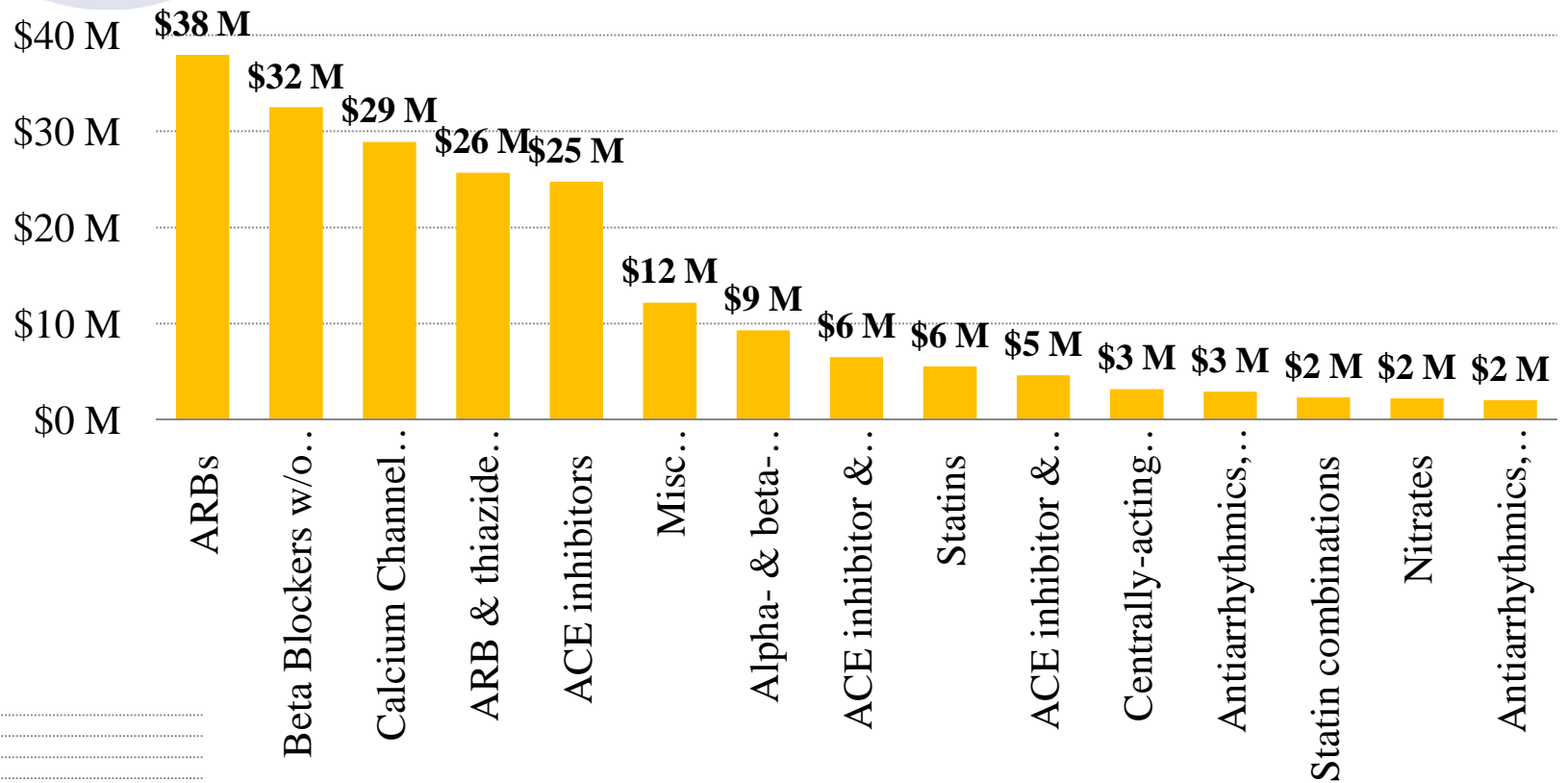
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DMV4 CARDIOLOGY EPISODES PHARMACY TOTAL COST TYPE OF SERVICE LEVEL 2





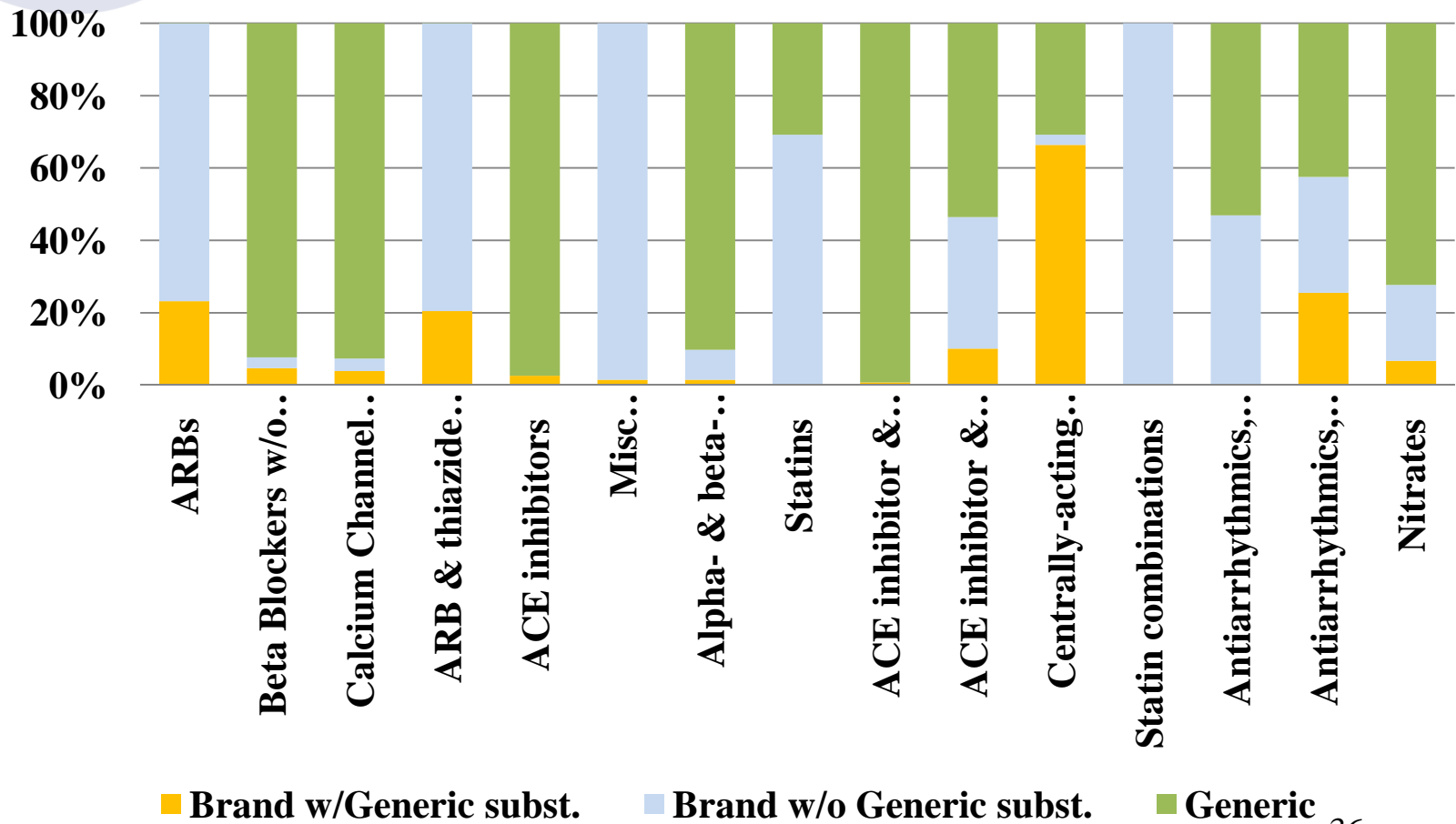
DMV4 CARDIOLOGY EPISODES PHARMACY STANDARD COST TOP 15 CARDIOVASCULAR AGENTS



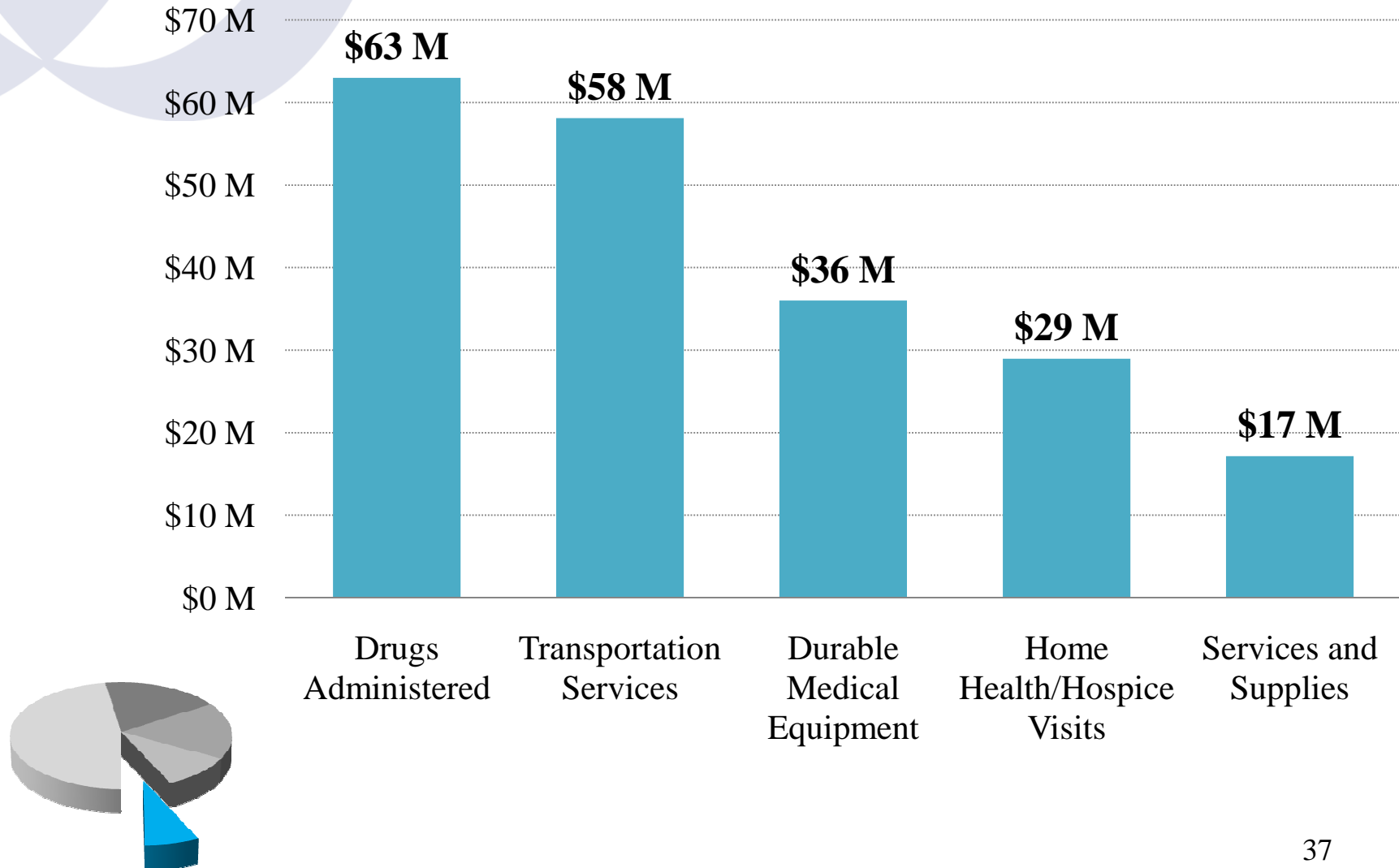


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DMV4 CARDIOLOGY EPISODES TOP 15 CARDIOVASCULAR AGENTS % TOTAL COST GENERIC VS BRAND RX



DMV4 CARDIOLOGY EPISODES ANCILLARY SERVICES TOTAL COST TYPE OF SERVICE LEVEL 2





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Row Labels	Values				
	Count of Episode ID	Sum of Total Std Cost	Min of Total Std Cost2	Average of Total Std Cost2	Max of Total Std Cost2
Ischemic heart disease, with angioplasty	8,508	\$243,465,100	\$145	\$28,616	\$247,600
Congestive heart failure, with angioplasty	99	\$2,842,159	\$218	\$28,709	\$226,047
Cardiomyopathy, with angioplasty	53	\$525,380	\$481	\$9,913	\$75,331
Heart failure, diastolic, with angioplasty	5	\$139,583	\$2,536	\$27,917	\$52,782
Pulmonary heart disease, with angioplasty	1	\$10,164	\$10,164	\$10,164	\$10,164
Other cardiac diseases, with angioplasty	1	\$2,301	\$2,301	\$2,301	\$2,301
Grand Total	8,667	\$246,984,687	\$145	\$28,497	\$247,600



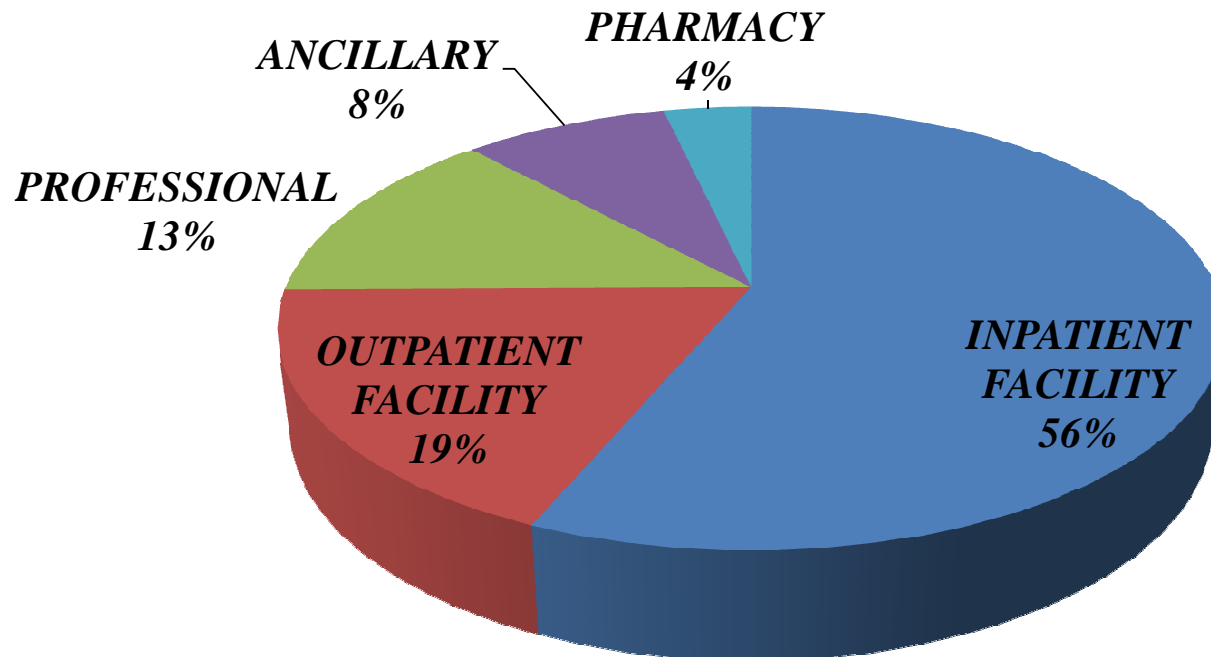
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CARDIOLOGY DMV 4 ISCHEMIC HEART DISEASE WITH ANGIOPLASTY



**ISCHEMIC HEART DISEASE WITH ANGIOPLASTY
STANDARD COST DISTRIBUTION
BY TYPE OF SERVICE
WHIO DMV4**

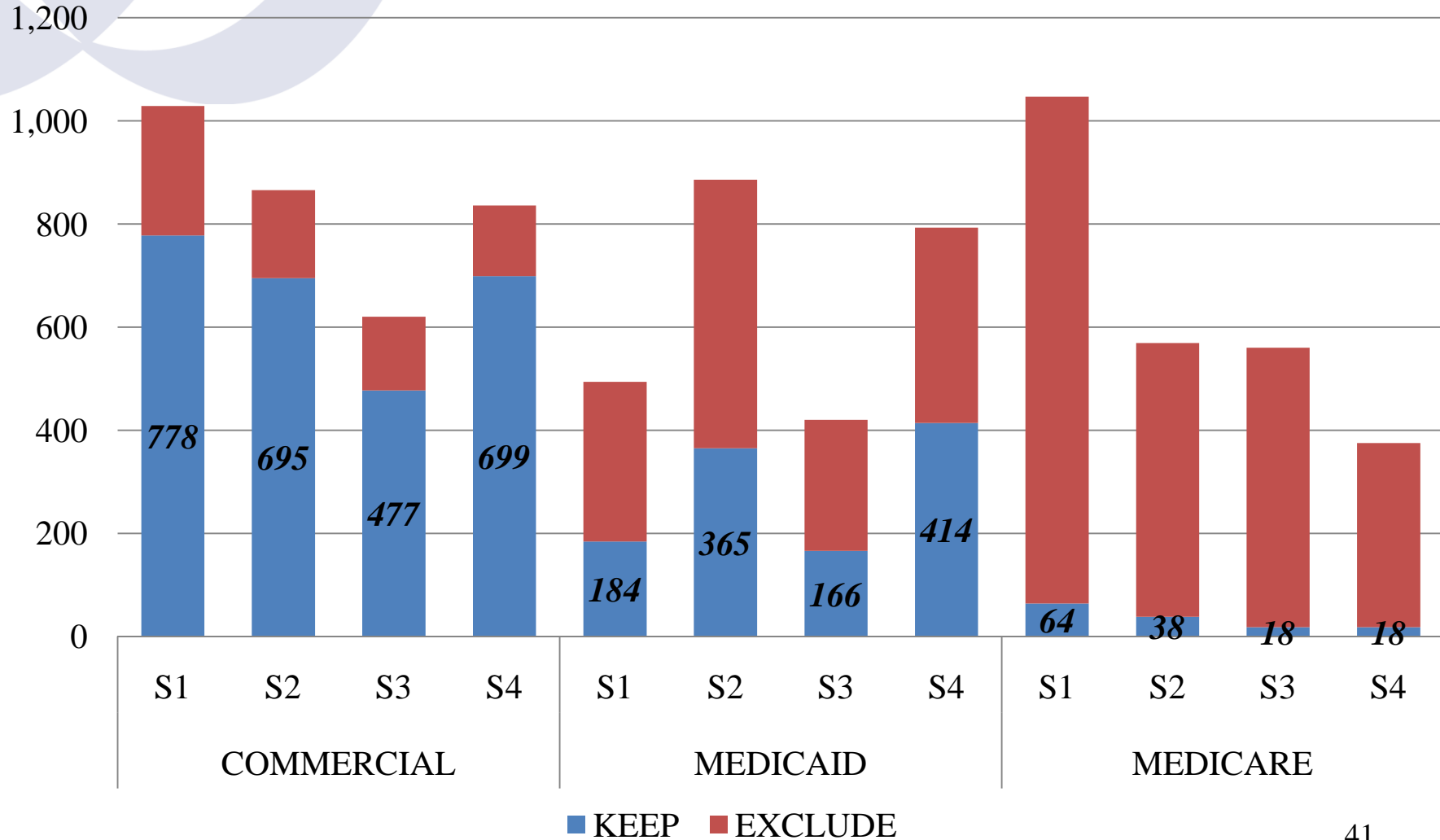
ALL SEVERITY LEVELS; EXCLUDES PARTIAL CLAIMS EPISODES





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ISCHEMIC HEART DISEASE WITH ANGIOPLASTY BY PRODUCT AND SEVERITY LEVEL NUMBER OF EPISODES WHIO DMV4



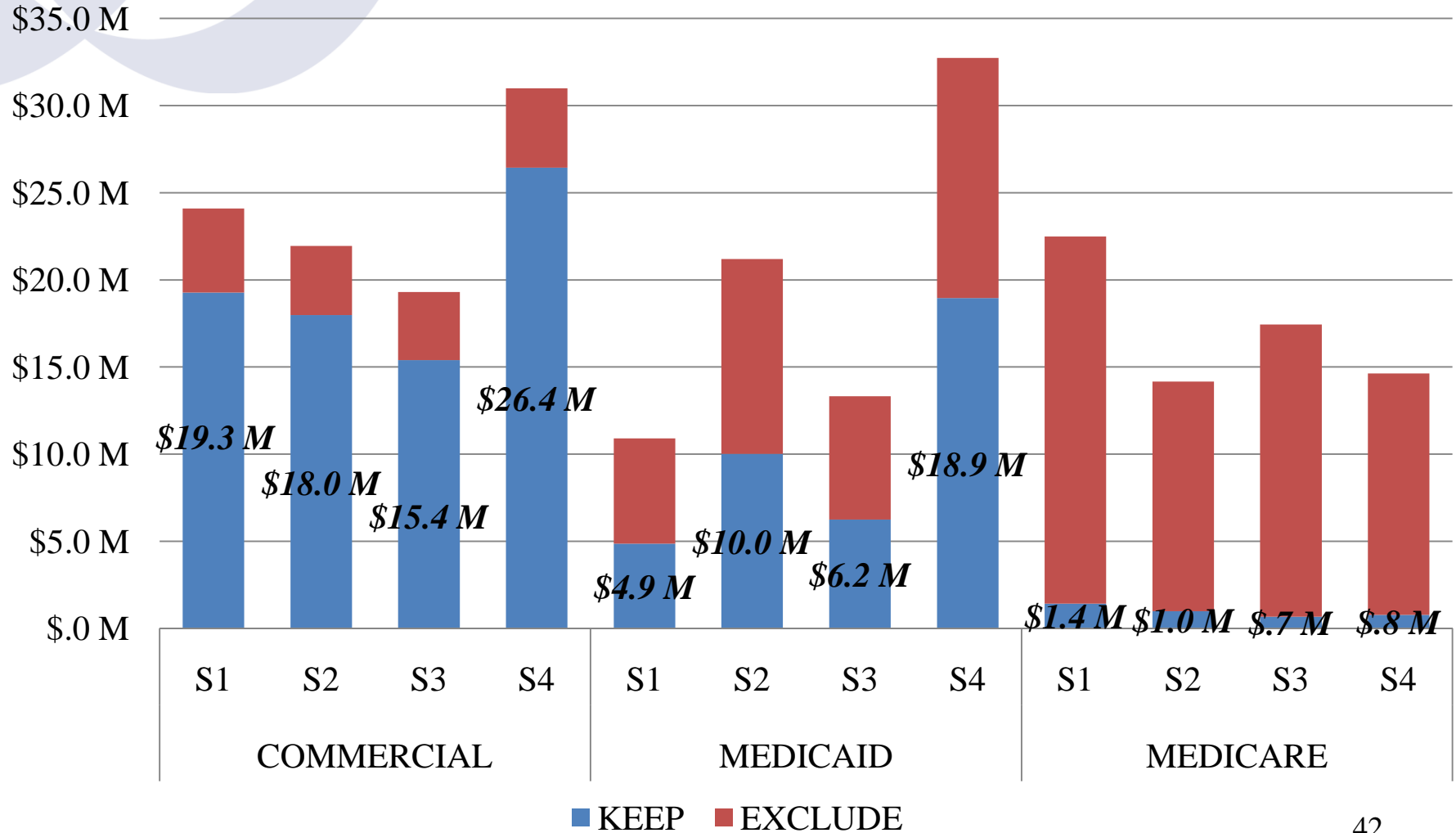


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ISCHEMIC HEART DISEASE WITH ANGIOPLASTY BY PRODUCT AND SEVERITY LEVEL

TOTAL STANDARD COST

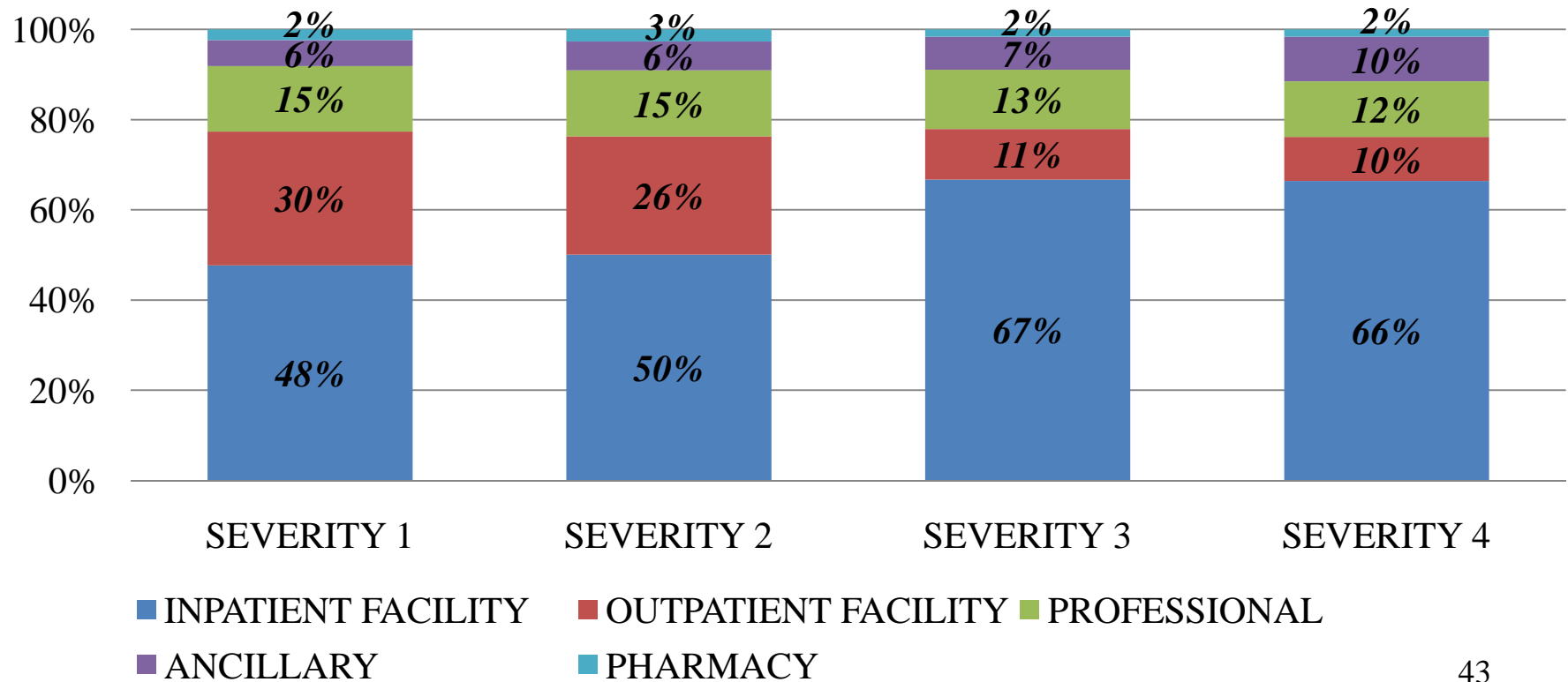
WHIO DMV4





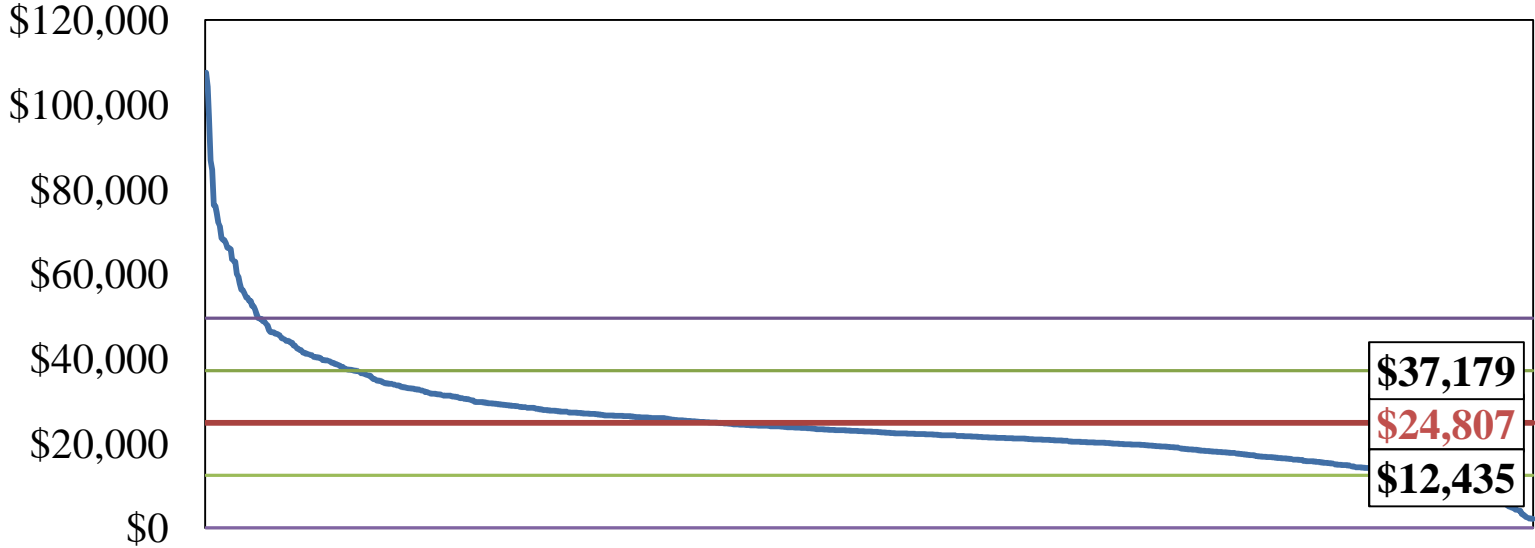
ISCHEMIC HEART DISEASE WITH ANGIOPLASTY COST DISTRIBUTION BY TYPE OF SERVICE WHIO DMV4

EXCLUDES PARTIAL CLAIMS EPISODES





**ISCHEMIC HEART DISEASE WITH ANGIOPLASTY
SEVERITY 1 EPISODES
WHIO DMV4
EXCLUDES LOW OUTLIERS AND PARTIAL CLAIM EPISODES**



— Total Std Cost
 — Avg Std Cost
 — Avg + 1 St Dev
— Avg +2 St Dev
 — Avg -1 St Dev
 — Avg -2 St Dev

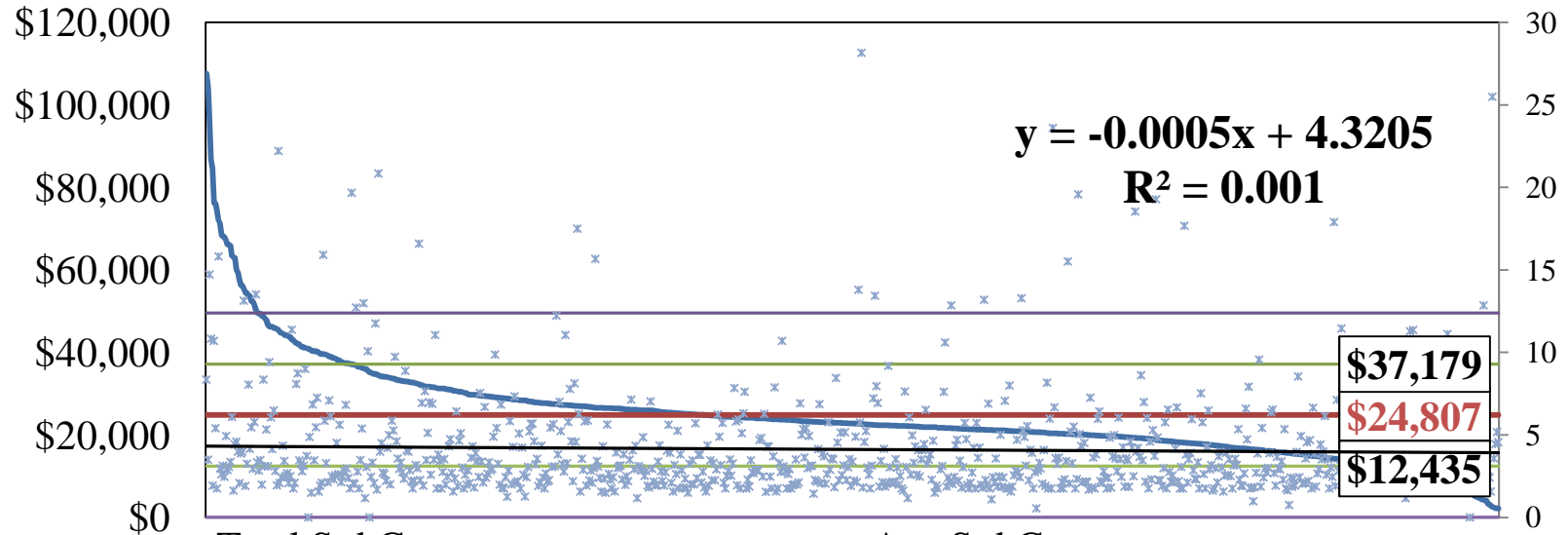


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ISCHEMIC HEART DISEASE WITH ANGIOPLASTY SEVERITY 1 EPISODES

WHIO DMV4

EXCLUDES LOW OUTLIERS AND PARTIAL CLAIM EPISODES



- Total Std Cost
- Avg Std Cost
- Avg + 1 St Dev
- Avg + 2 St Dev
- Avg - 1 St Dev
- Avg - 2 St Dev
- * Health Risk, Retrospective
- Linear (Health Risk, Retrospective)
- Linear (Health Risk, Retrospective)

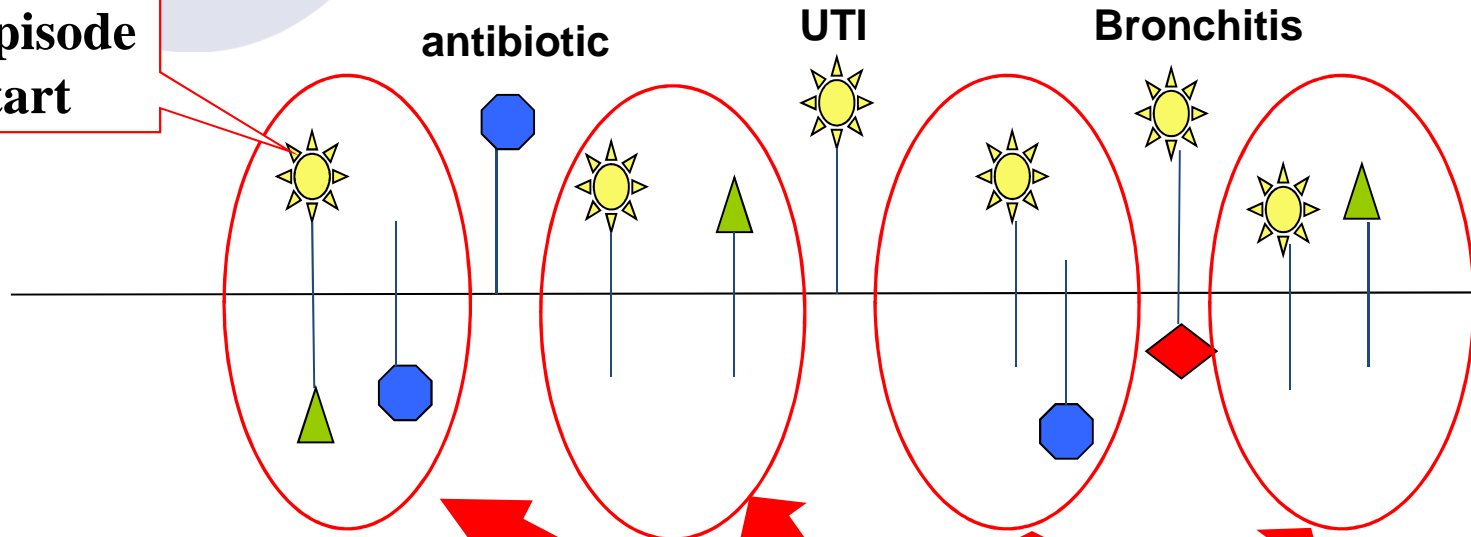


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Diagram of a Diabetes Episode

Episode Start

Episode End-1 year



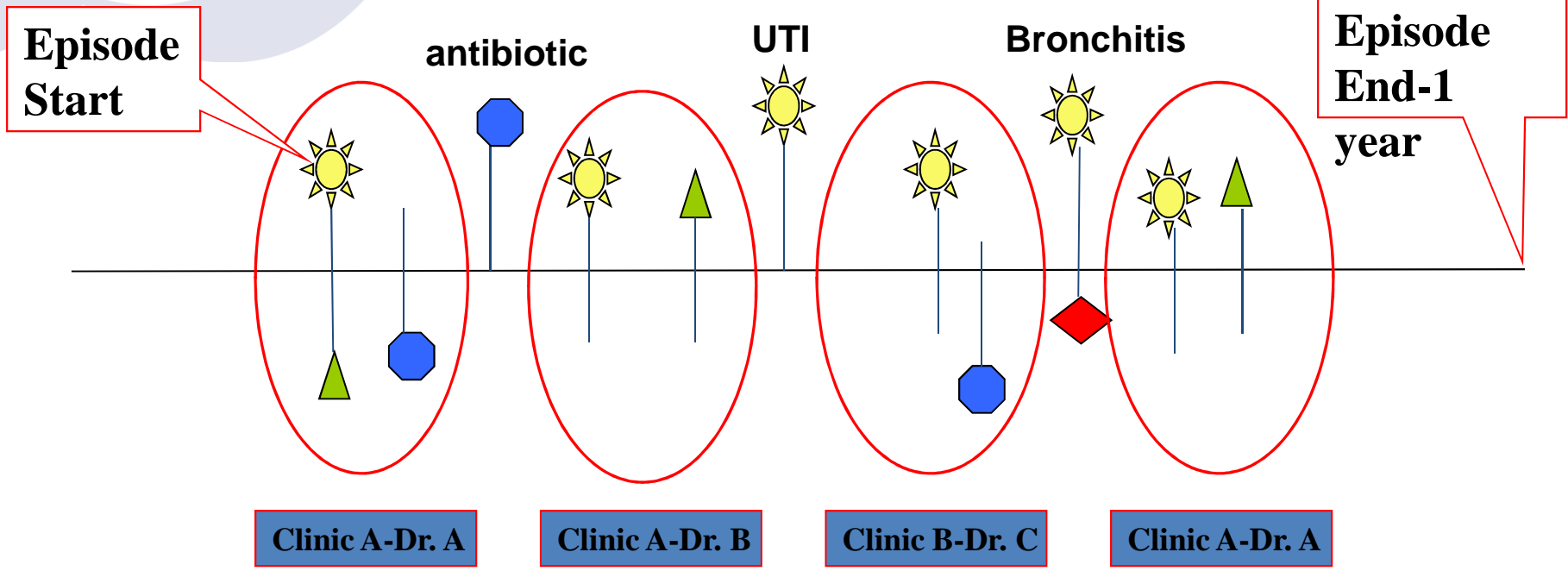
Episode Clusters (contain diabetes related services)

-  Office Visit (Anchor Record)
-  Lab Services (Ancillary Record)
-  Radiology (Ancillary)
-  Pharmacy Records (Ancillary)



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Assigning Episodes to Clinic



-  Office Visit (Anchor Record)
-  Lab Services (Ancillary Record)
-  Radiology (Ancillary)
-  Pharmacy Records (Ancillary)

Episode attributed to Clinic A and Dr. A