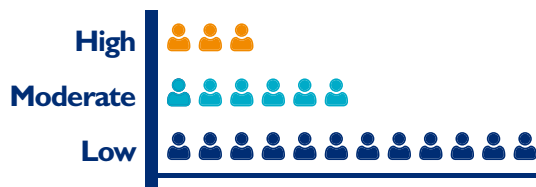# MULTIMORBIDITY PREDICTS UTILIZATION

The core premise of the Johns Hopkins ACG System approach is that the **clustering of disease (aka "comorbidity" or "multimorbidity") is a better predictor of resource use than presence of one single disease or health care event.**
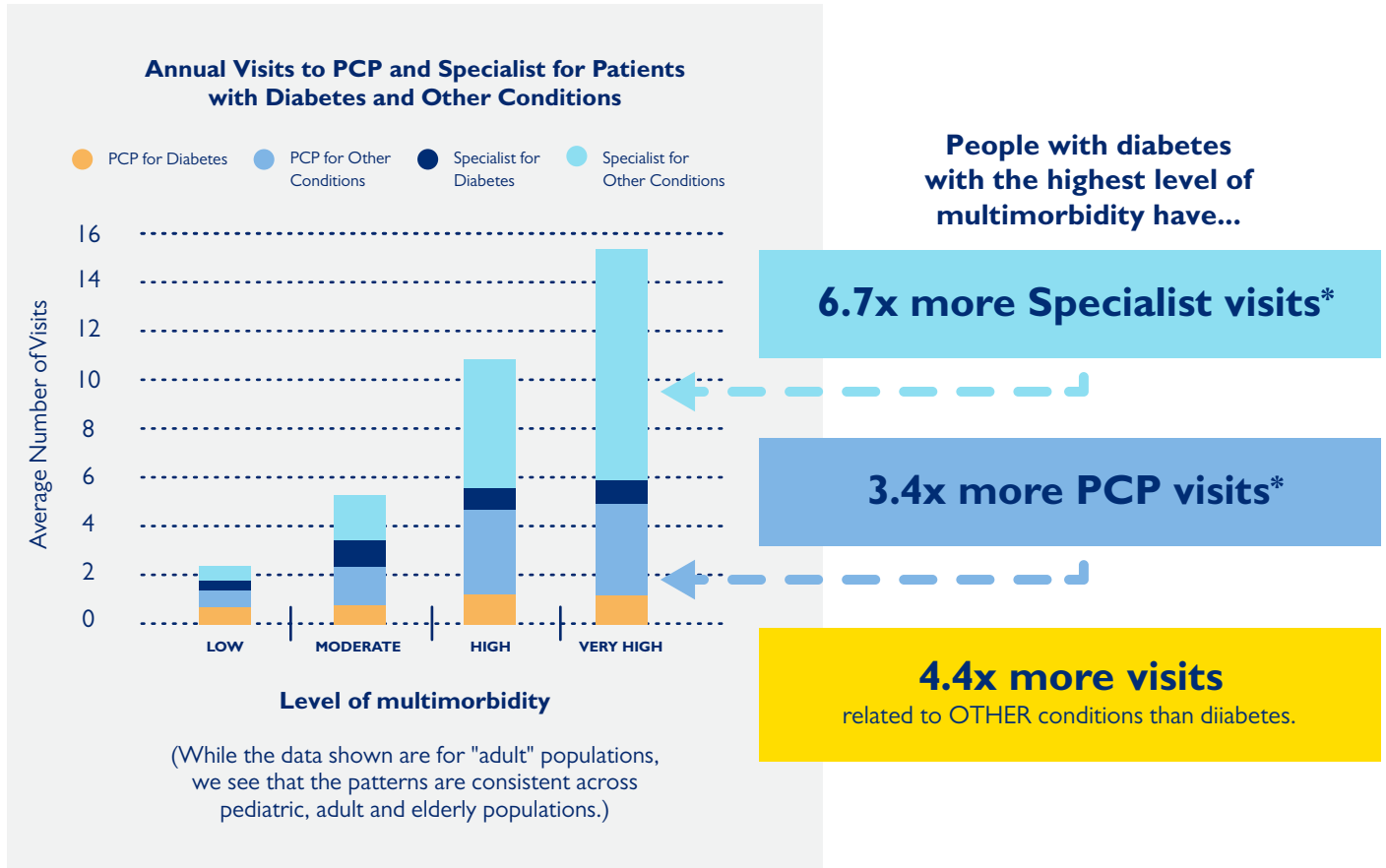
PREDICTING COST BASED ON MULTIMORBIDITY

High
Moderate
Low

To illustrate **how the ACG System identifies those with predicted high health care need based on multimorbidity**, we selected a particular population (in this case, people with diabetes) and grouped them into low, moderate, high or very high multimorbidity as determined by the ACG System's Resource Utilization Bands, or RUBs.

MULTIMORBIDITY = HIGH COST

This chart illustrates the number of provider visits for each RUB group.

Annual Visits to PCP and Specialist for Patients with Diabetes and Other Conditions

Legend:
- PCP for Diabetes
- PCP for Other Conditions
- Specialist for Diabetes
- Specialist for Other Conditions

Y-axis: Average Number of Visits (0, 2, 4, 6, 8, 10, 12, 14, 16)

X-axis categories: LOW, MODERATE, HIGH, VERY HIGH

Level of multimorbidity

(While the data shown are for "adult" populations, we see that the patterns are consistent across pediatric, adult and elderly populations.)

People with diabetes with the highest level of multimorbidity have...

6.7x more Specialist visits*

3.4x more PCP visits*

4.4x more visits related to OTHER conditions than diiabetes.

*Annually, compared to low-morbidity diabetic patients.

Multimorbid patients use FAR MORE HEALTH CARE RESOURCES than those with a single disease.

Diabetic patients with very high multimorbidity account for **only** **13%** of all diabetic patients, but...

account for **36%** of **all** Emergency Department visits

Diabetic patients with **very high multimorbidity** have a
43% hospitalization rate
(compared to <2% for low morbidity)

Diabetic patients with **very high multimorbidity** are
5X more likely to be readmitted
to a hospital within a year (compared to diabetic patients with low morbidity)

HOW THE ACG SYSTEM CAN HELP

Understanding multimorbidity and the impact it has on a population's health need
IS CRITICAL TO EFFECTIVE POPULATION MANAGEMENT.

The ACG System can be used to:

Understand your population's current health needs and future risks by quantifying the prevalence of disease and patterns of comorbidities within subgroups.

Assess the demand for services and allocate appropriate financial and staff resources, by evaluating population risk factors.

Track patients with chronic conditions over time and monitor their medication cost and utilization patterns to better gauge clinical performance, cost of care and outcomes.

Engage patients in early preventive care by targeting those who are at high-risk for hospitalization, frailty, high pharmacy use or avoidable emergency department use.

Measure and contrast performance of clinics and practitioners based on the case mix of their patient population.

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ABOUT THE ACG SYSTEM

The Johns Hopkins ACG System is the world's leading population health analytics software.
The system continues to evolve, providing ever-more refined tools used in the US and across the globe
for over 30 years, from commercial health plans and governments to health systems and large employers.

Learn more by visiting
www.HopknsACG.org or email **acginfo@jh.edu**