



**Leveraging the Relationship between  
Days Wait to Appointment and  
Outpatient Patient Satisfaction Scores  
to Improve Retention Rates,  
Reimbursement and Reporting Metrics**

**Brian Harte MD and Eric D. Hixson PhD, MBA  
Medical Operations, Business Intelligence**

# **Full Disclosure**

**Neither presenter has any actual or potential conflicts of interest in relation to this presentation**

# Objectives and Agenda

- **Discuss the current environment, reporting requirements, and potential financial implications**
- **Summarize key drivers associated with days wait and patient satisfaction and our current experience**
- **Overview of management approaches to engage stakeholders around improving satisfaction scores related to appointment wait time**

# Background

- **Families have choices for care and increasing responsibility of costs**
- **Access to care has potential to impact satisfaction with care and choice of provider**
- **It is important to understand relationship between days wait to visit and patient experience**

# Problem & Priority

- **Problem: How does patient satisfaction with outpatient encounters relate to days wait?**
- **Priority: In a highly competitive market, improving access to care provides opportunity to improve volume and patient experience**

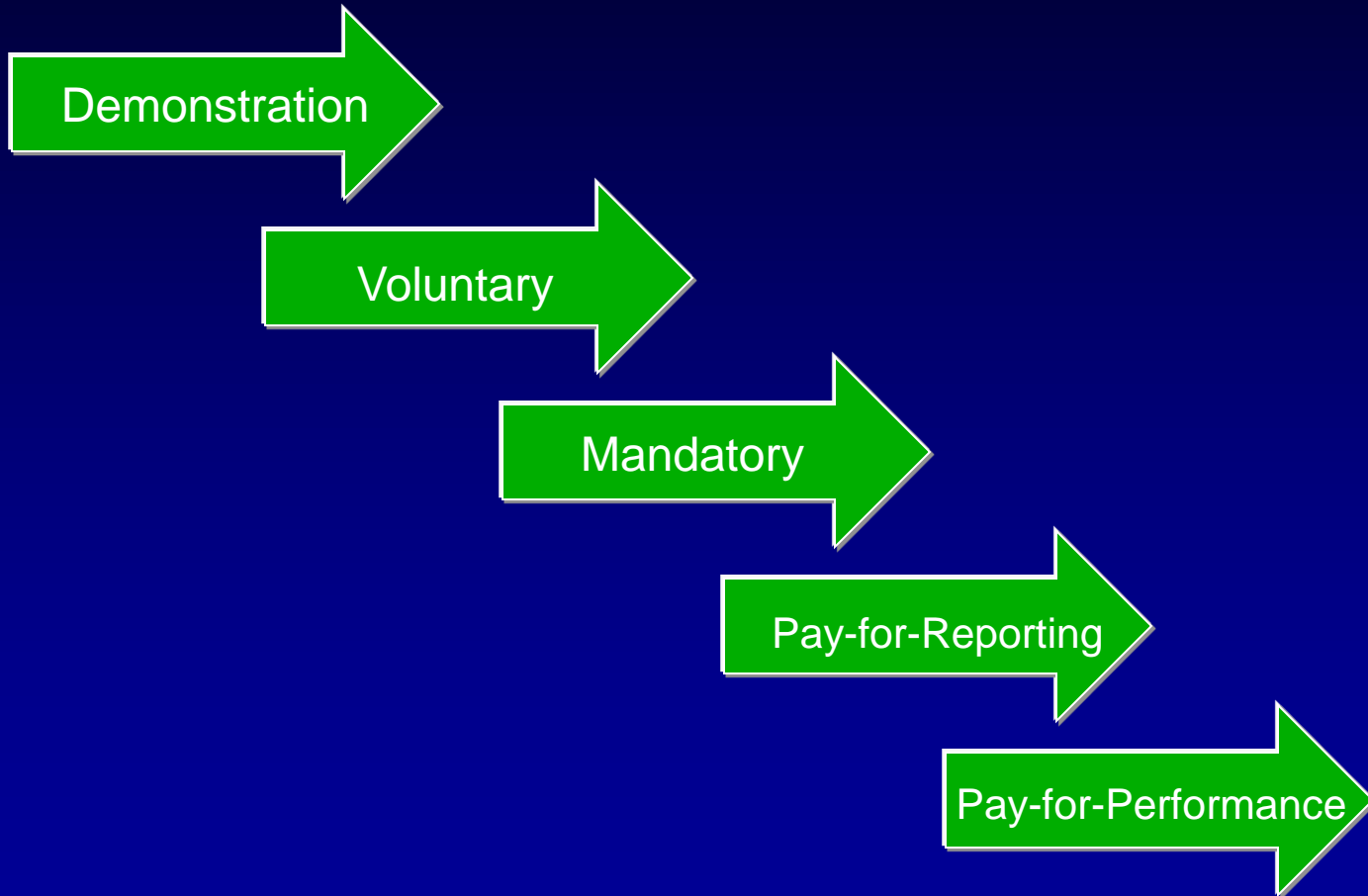
# **A Changing Environment**

- **Increasingly competitive market**
- **Shifting balance of responsibility for expenses**
- **Patients are more informed and selective**
- **Growing emphasis on preventative measures and ambulatory care**
- **Pay-for-performance and public reporting**

# Reporting requirements and financial implications

- **HCAHPS – Hospital**
  - Launched in 2006 and public reporting started in 2008
  - 2013 Value-based purchasing incorporates 8 dimensions
- **CG-CAHPS – Physician Office**
  - CMS plans to include in PQRS reporting in CY2013

# Familiar Patterns: Path to Pay-for-Performance





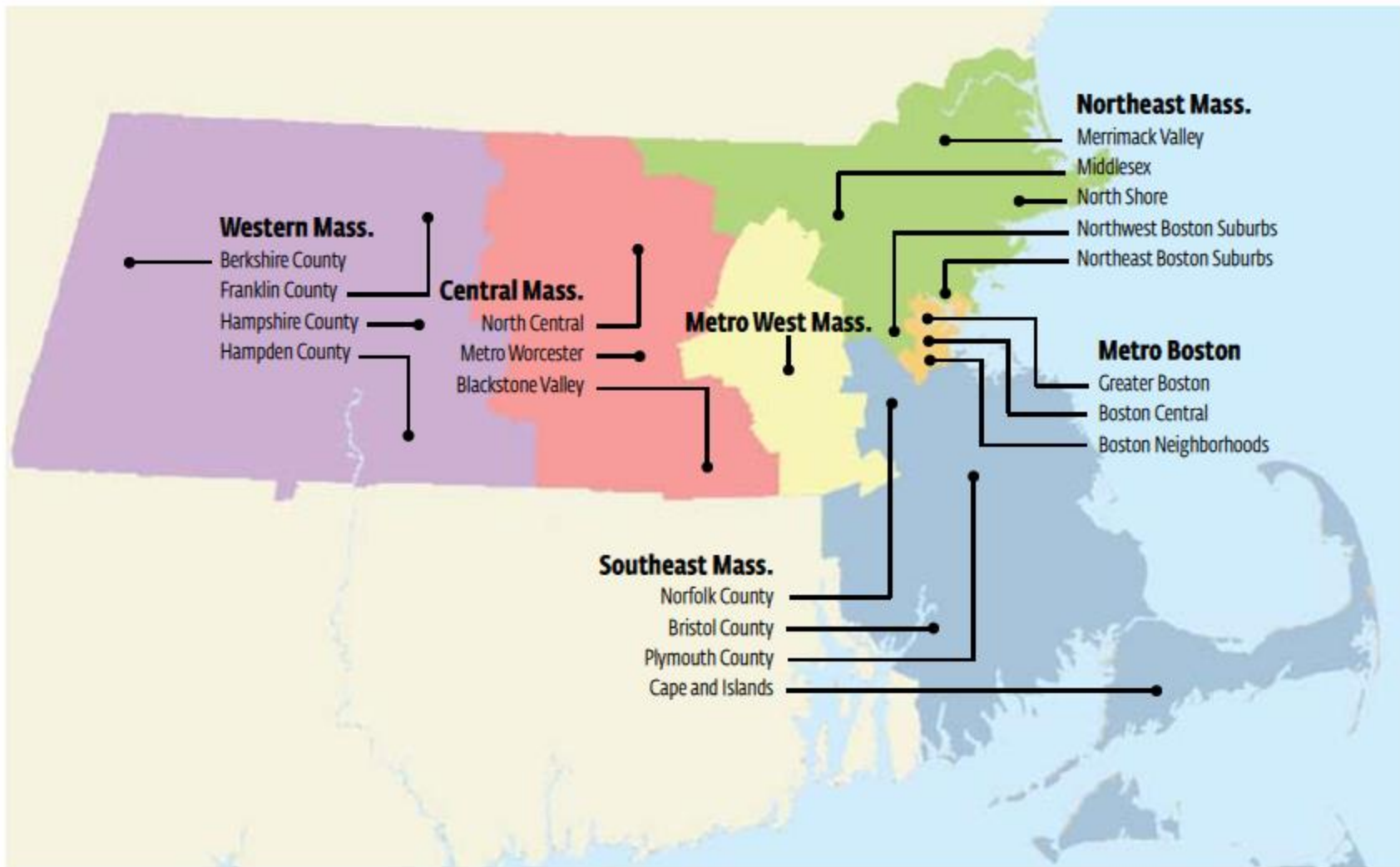
**Special Report** for Massachusetts residents

# How Does Your Doctor Compare?

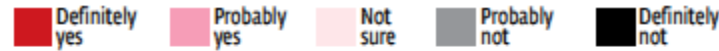
- **Exclusive:** Patients rate 487 adult, family & pediatric practices
- **How to get the best care**
- **Quiz:** Does your physician measure up?



**GUIDE TO  
PRIMARY CARE  
PHYSICIANS IN  
MASSACHUSETTS**  
PAGE 10



### Willingness to recommend



# Ratings of practices for adults In collaboration with MHQP

Based on patient experience In alphabetical order, within regions and towns

Town	Practice Name	Address	Willingness to Recommend		Performance				
			0%	100%	How well doctors communicate with patients	How well doctors coordinate care	How well doctors know their patients	Getting timely appointments, care, and information	Getting courteous and respectful help from office staff
<b>NORTHEAST MASSACHUSETTS</b>									
<b>Merrimack Valley</b>									
Amesbury	Lahey - Amesbury	24 Morrill Pl.	74		4	3	3	2	2
Andover	New England Medical Group	140 Haverhill St.	69		4	2	2	2	3
Billerica	Burlington Medical Associates - Billerica	790 Boston Rd.	72		4	2	3	4	3
Chelmsford	Chelmsford Primary Care	2 Meeting House Rd.	76		3	3	2	2	3
Chelmsford	Harvard Vanguard Chelmsford	228 Billerica Rd.	75		3	3	2	2	3
Haverhill	Pentucket Medical Associates - Haverhill	1 Parkway	69		3	2	2	2	2
Haverhill	Whittier Medical Associates	62 Brown St., Suite 200	76		3	2	2	3	3
Lawrence	Pentucket Medical Associates - RiverWalk	500 Merrimack St.	64		3	3	2	2	3
Lowell	Cardiology Associates of Greater Lowell	33 Bartlett St., Suite 206	70		3	2	2	3	2

# Patient-Centered Appointment Scheduling

	Studies	Improvement		Worsening	
		Sig	←————→	————→	Sig
Time to 3 <sup>rd</sup> Available	8	5	3		
No-show Rates	11	5	5	1	
<b>Overall Satisfaction</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>1</b>	
<b>Appt Satisfaction</b>	<b>4</b>		<b>2</b>	<b>1</b>	<b>1</b>
Care Continuity	9	3	4	2	
Health care Utilization	2		2		

# Positive Effects on Satisfaction with Wait Time

- **More frequent physician consultation**
- **Gender**
- **Patient older age**
- **Better baseline health**
- **Physician scarcity**

# Patient Trade-offs

- **Patients are willing to wait 2.5 days longer for more a convenient appt time**
- **Patients are willing to wait 5.0 days longer to see doctor of choice**

# Preferences and Risks of Same Day Appointments

- Younger age
- Prior experience receiving rapid access
- Expecting a prescription
- Brief problem duration
  
- 10% increase in same day appointments associated with 8% reduction in days wait satisfaction (OR = 0.92)
  - Greater effect for older patients – higher value on scheduling in advance

# Association Between Satisfaction with Physician Communication and 1-yr Healthcare Utilization

	<b>Least Satisfied</b>	<b>Most Satisfied</b>	
ED Visits	17.6%	14.3%	p < 0.05
Admits	10.7%	11.5%	p < 0.05
Mortality	1.0	1.26	p = 0.02

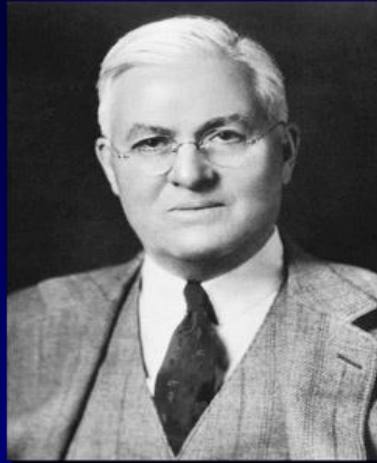


# Cleveland Clinic

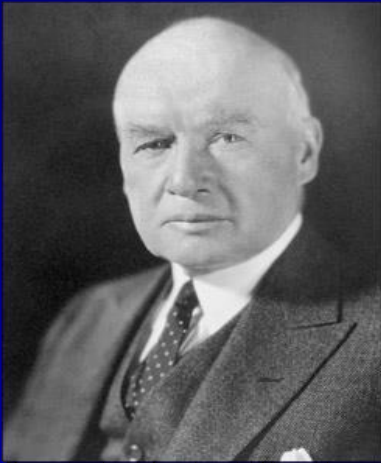
## 92 Years and Counting



Dr. Frank E. Bunts



Dr. George W. Crile



Dr. William E. Lower



Dr. John Phillips

- Multi-specialty Group
- Founded 1921
- Based on WW I Team
- To “act as a unit”



# Cleveland Clinic

## Care Delivery System



# Cleveland Clinic Today

- Academic Medical Center + 9 Hospitals in Ohio & 18 Family Health Centers
- Facilities in Florida, Las Vegas, Abu Dhabi
- >4 million Patient Visits
- 41,000 Employees
- > 3,000 Physicians & Scientists



# Cleveland Clinic

Miller Family  
Pavilion 2012

Clinic Building 1921



# Lou Ruvo Center for Brain Health – Las Vegas, NV



Cleveland Clinic Florida



Cleveland Clinic Abu Dhabi (2013)

# **Group Practice Model**

- **Physician-led, not for profit enterprise**
- **Staff physicians employed & salaried**
- **Annual professional reviews/  
reappointments**
- **No volume incentives**
- **Expectation of excellence**

# **Multiple Implicit Directives with Uncertain Directions**

- **Accountable care**
- **ED visit and hospitalization prevention**
- **Consumerism and satisfying patient expectations**

# Study Data

- **June 2010 through December 2012**
  - **177,114 total visits**
  - **17 service lines**
- **Visits**
  - **New = new patient to Cleveland Clinic**
  - **New Inst = new patient to service line**
  - **Established = established CC patient**
- **Only visits with returned survey responses and days wait  $\leq$  100 days**

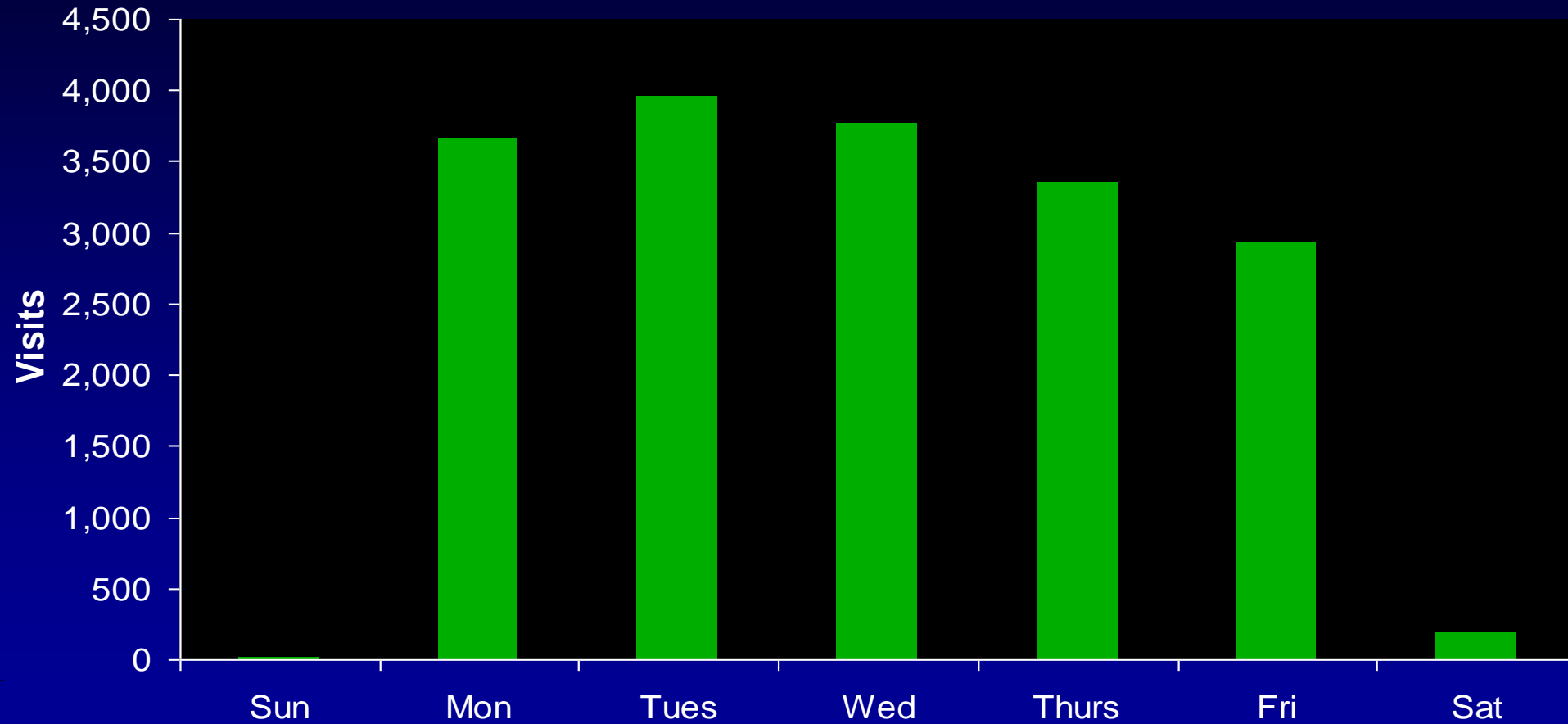


# Definitions

- **Days Wait**
  - **Calendar days between when appointment was scheduled and the appointment date (including weekends).**
- **Appointment When Wanted**
  - **Outpatient provider survey, stratified random sample**
  - **'Very Good' response to survey question, "Ability to get an appointment for when you wanted."**
- **Service Area**
  - **Home zip codes mapped to primary geographic service areas**

# New Appointments by Day of Week

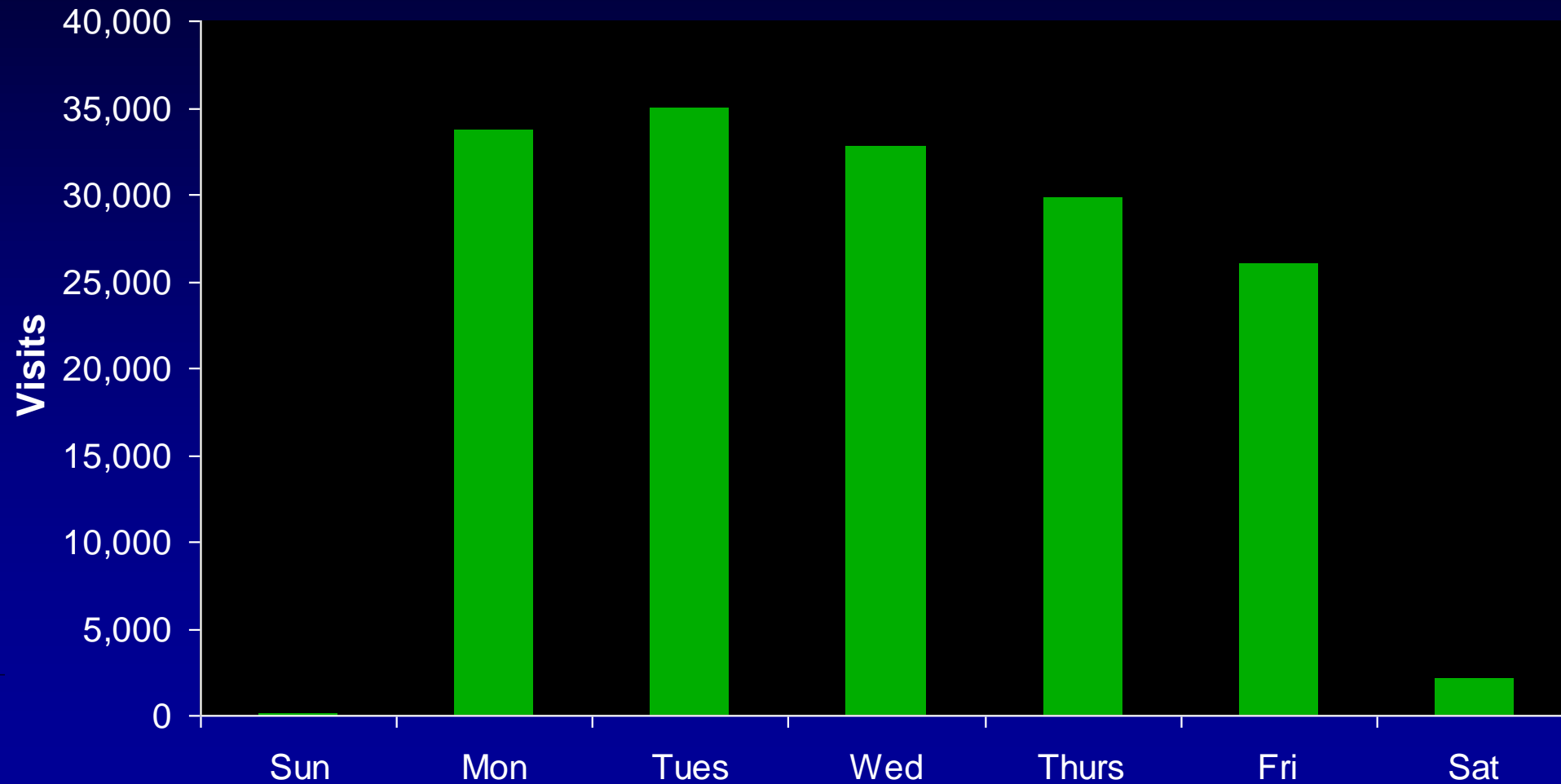
## June 2010 through December 2012



*\* Only visits with returned survey responses*

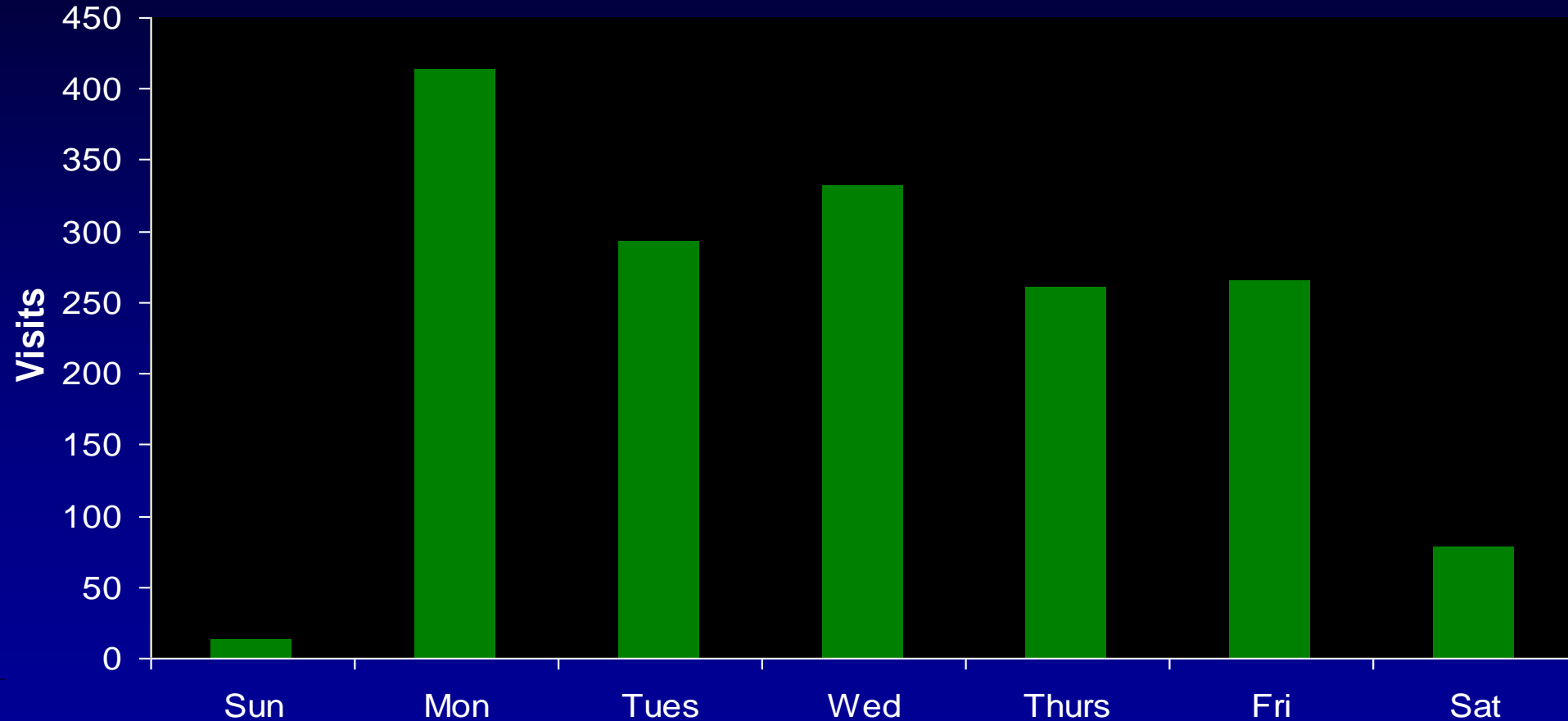
# Established Appointments by Day of Week

## June 2010 through December 2012



*\* Only visits with returned survey responses*

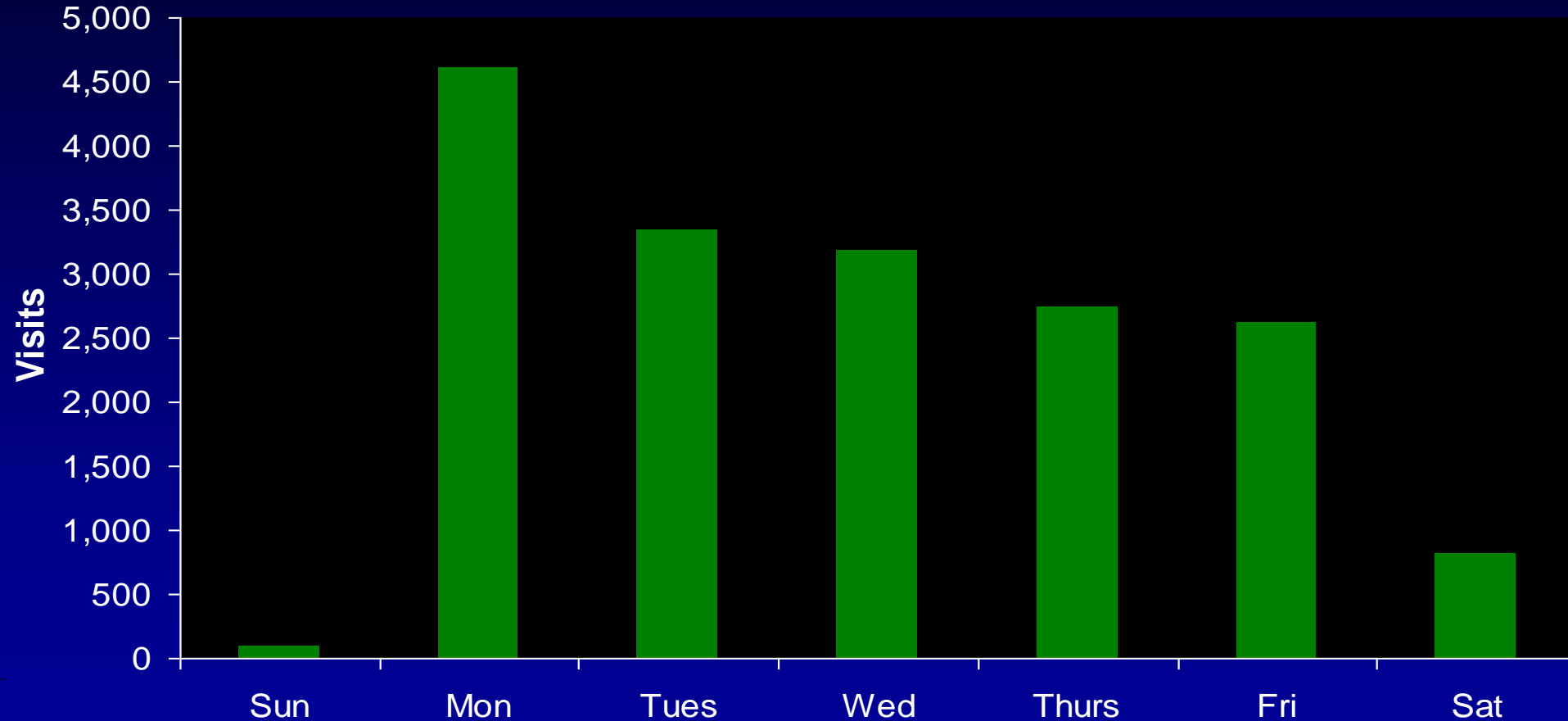
# New Same Day Appointments by Day of Week June 2010 through December 2012



*\* Only visits with returned survey responses*

# Established Same Day Appointments by Day of Week

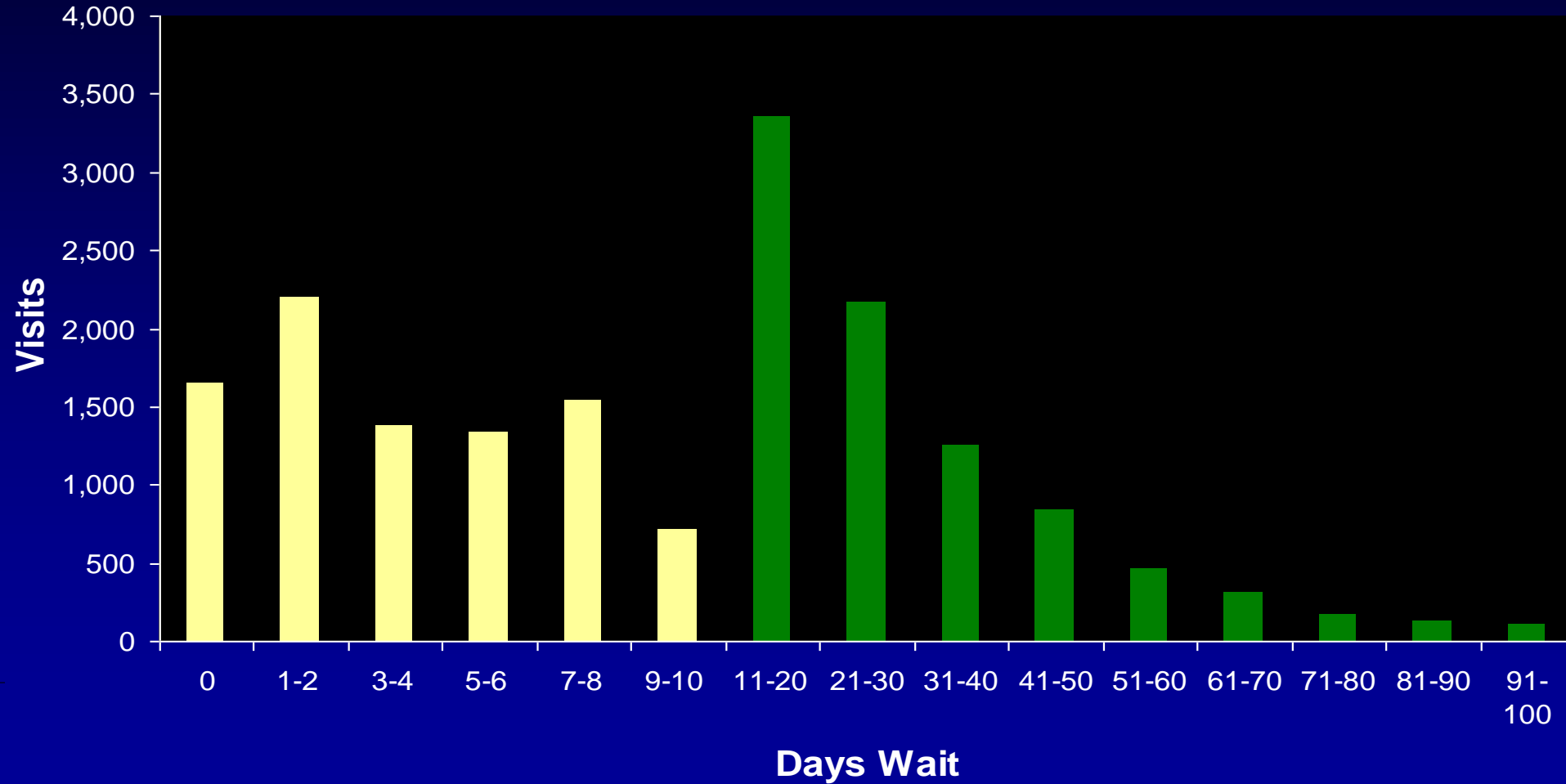
June 2010 through December 2012



*\* Only visits with returned survey responses*

# New Visit Days Wait Frequency

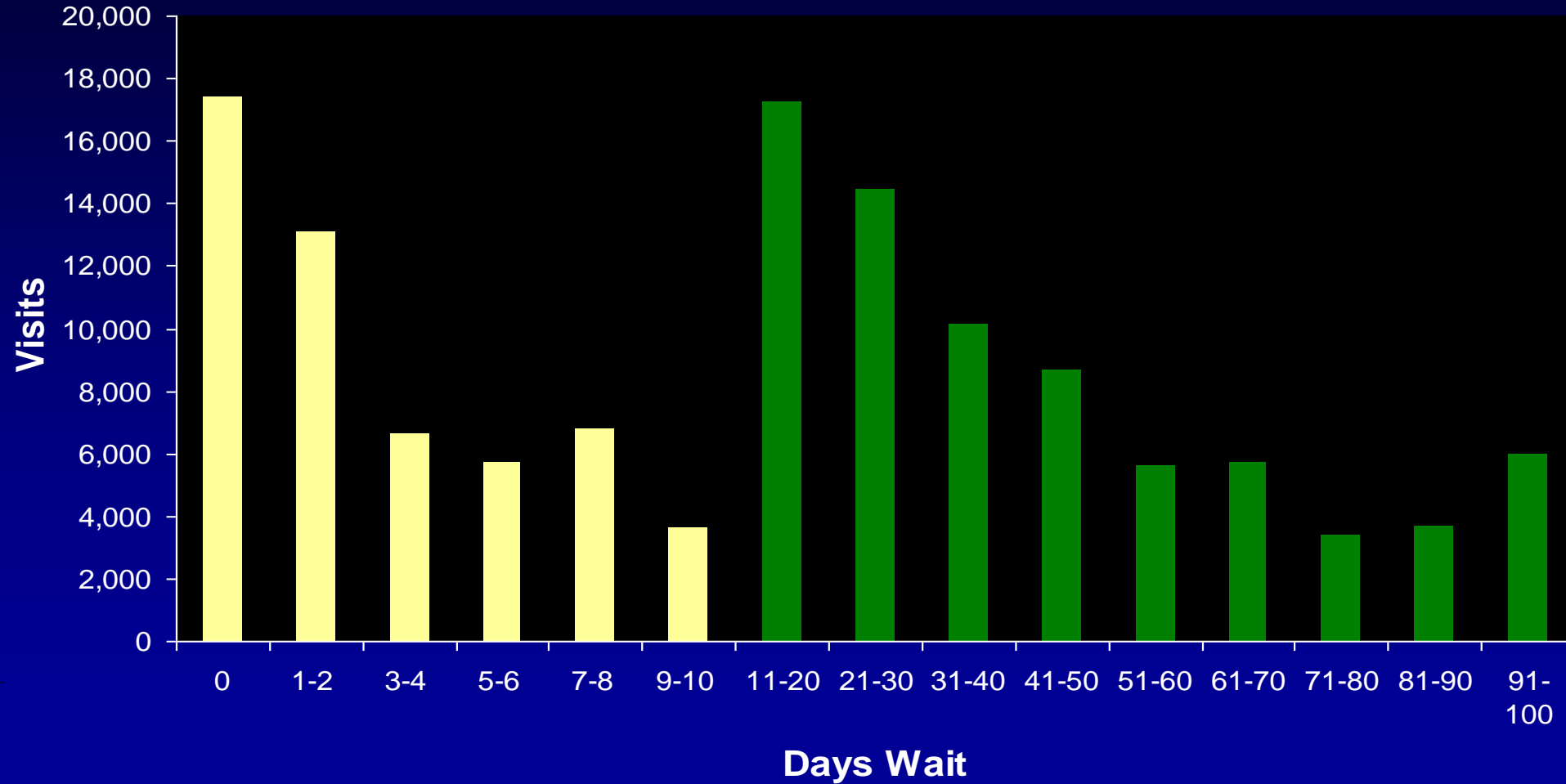
June 2010 through December 2012



*\* Only visits with returned survey responses*

# Established Visit Days Wait Frequency

June 2010 through December 2012



*\* Only visits with returned survey responses*

# Summary Findings

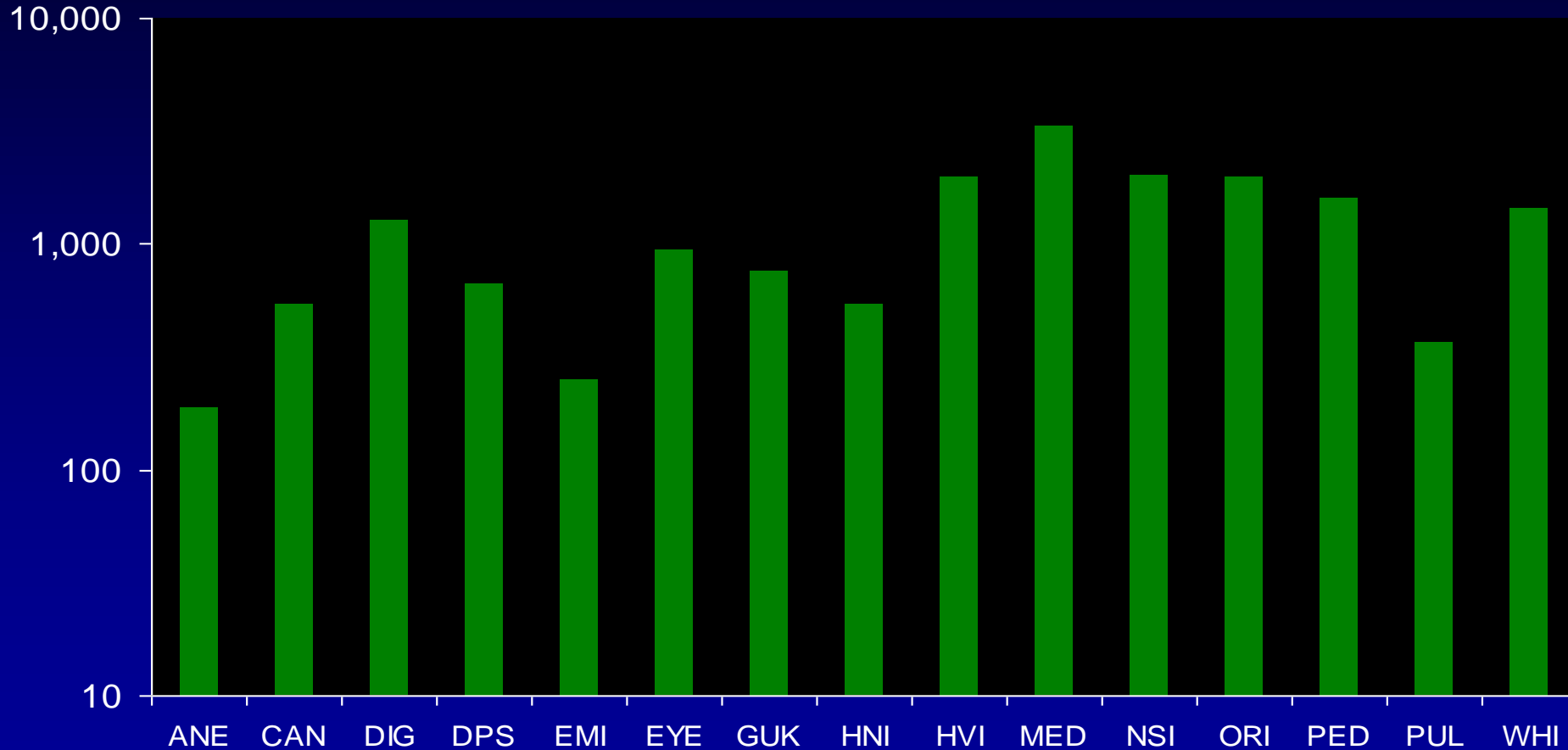
	New Visits	Established Visits
Age	46.5 (46.1-46.9)	54.7 (54.6-54.8)
Female	55.1% (54.3-55.8)	59.5% (59.3-59.8)
Service Lines	19	19
Locations	75	85
Providers	1,677	2,203
Days Wait	17.1 (16.8-17.3)	26.1 (26.0-26.3)
Appt Wanted – All	4.44 (4.42-4.45)	4.39 (4.38-4.40)
Appt Wanted – Same Day	4.59 (4.55-4.63)	4.55 (4.54-4.56)

(95% Confidence Interval)



# New Appointments by Service Line

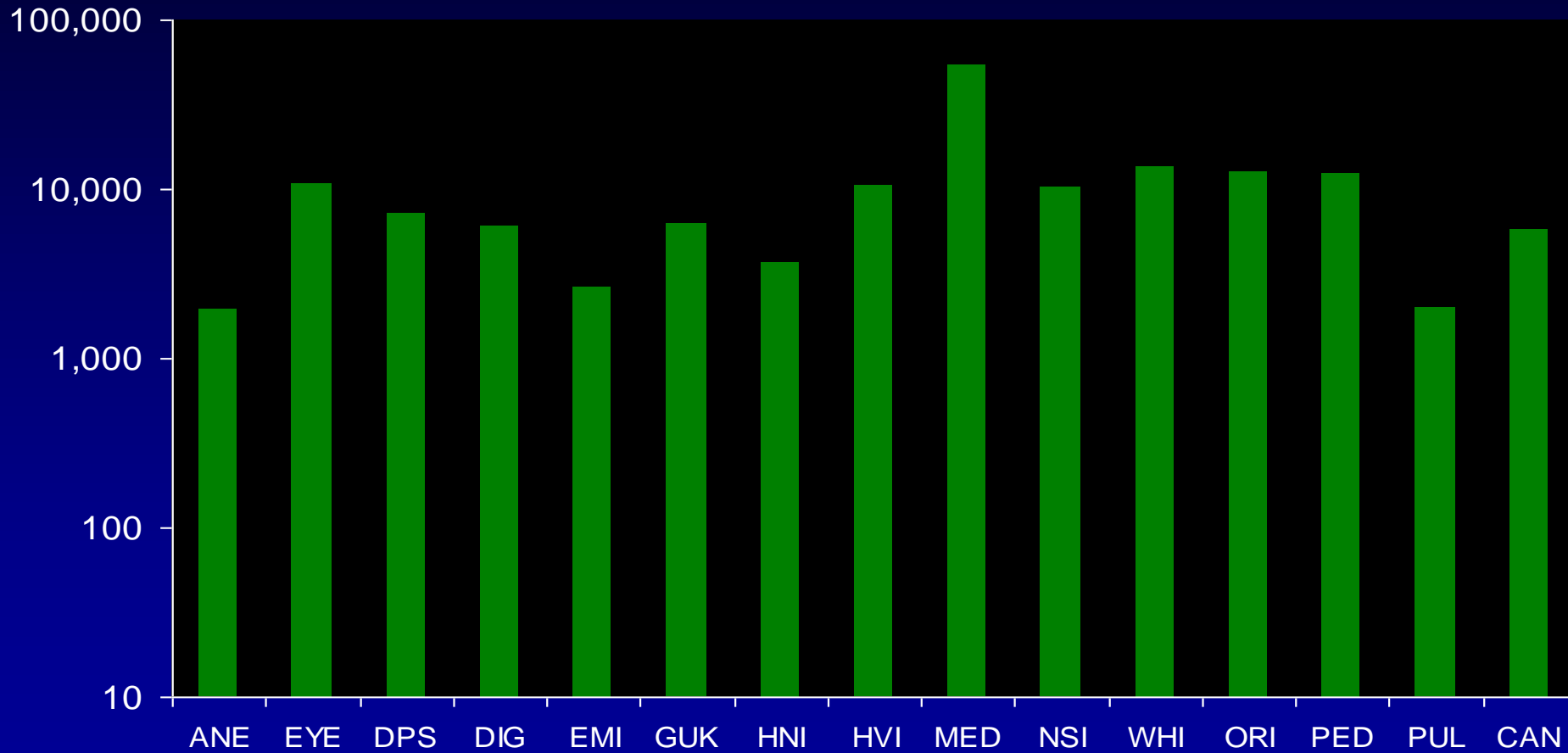
## June 2010 through December 2012



*\* Only visits with returned survey responses*

# Established Appointments by Service Line

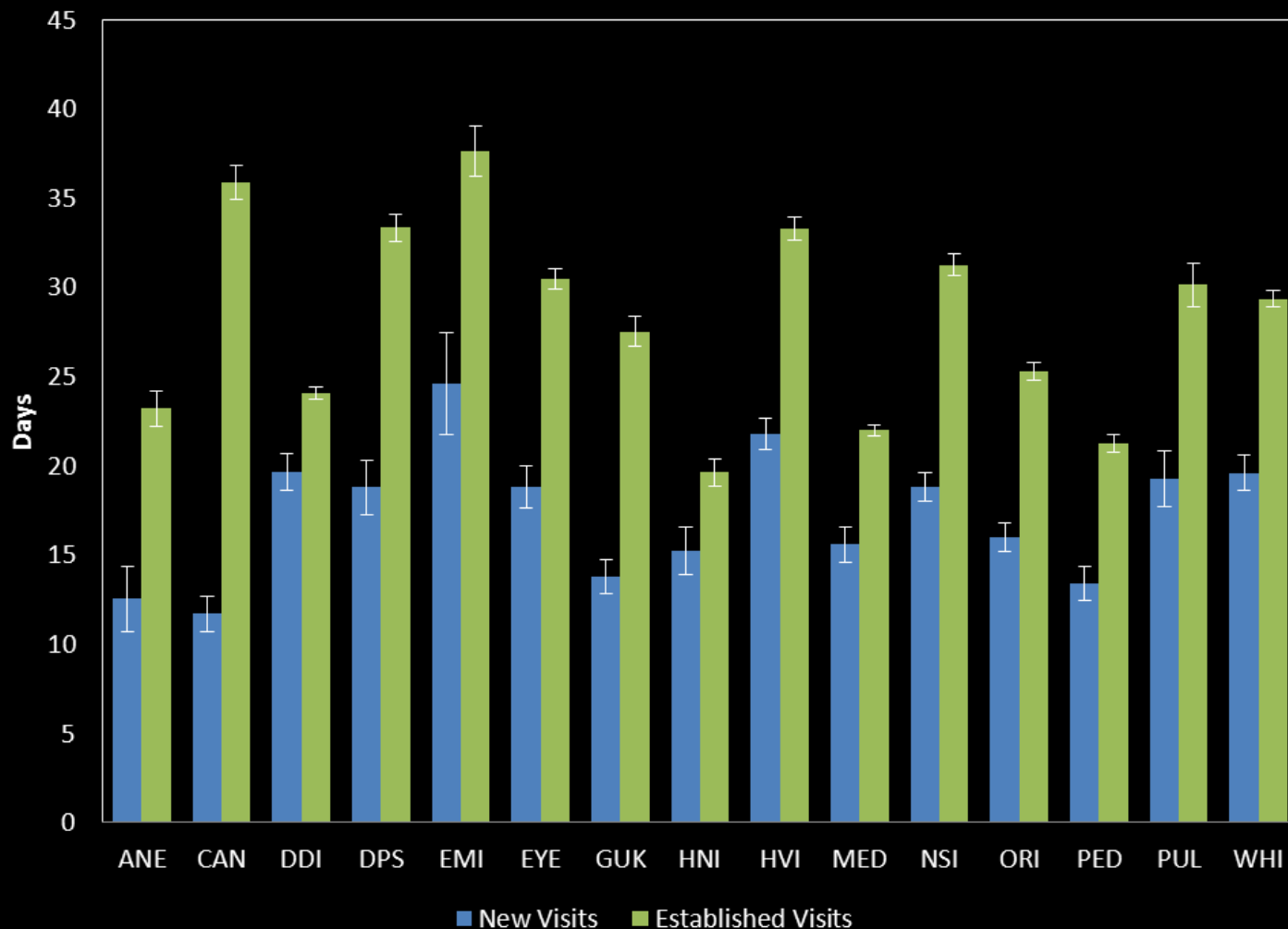
## June 2010 through December 2012



*\* Only visits with returned survey responses*

# Mean Days Wait by Service Line

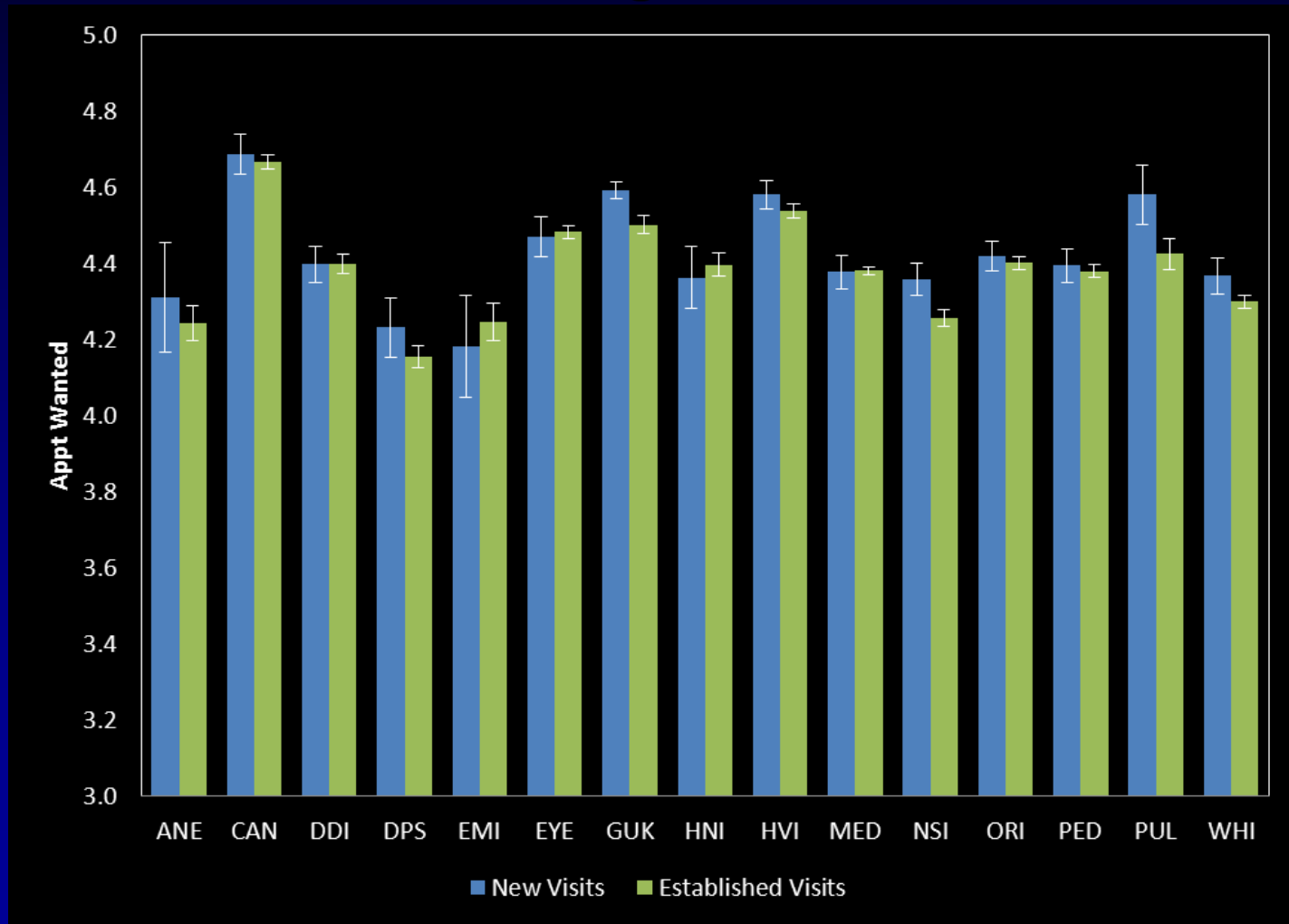
## June 2010 through December 2012



\* Error bars = 95% CI

# Satisfaction with Appointment When Wanted by Service Line

June 2010 through December 2012

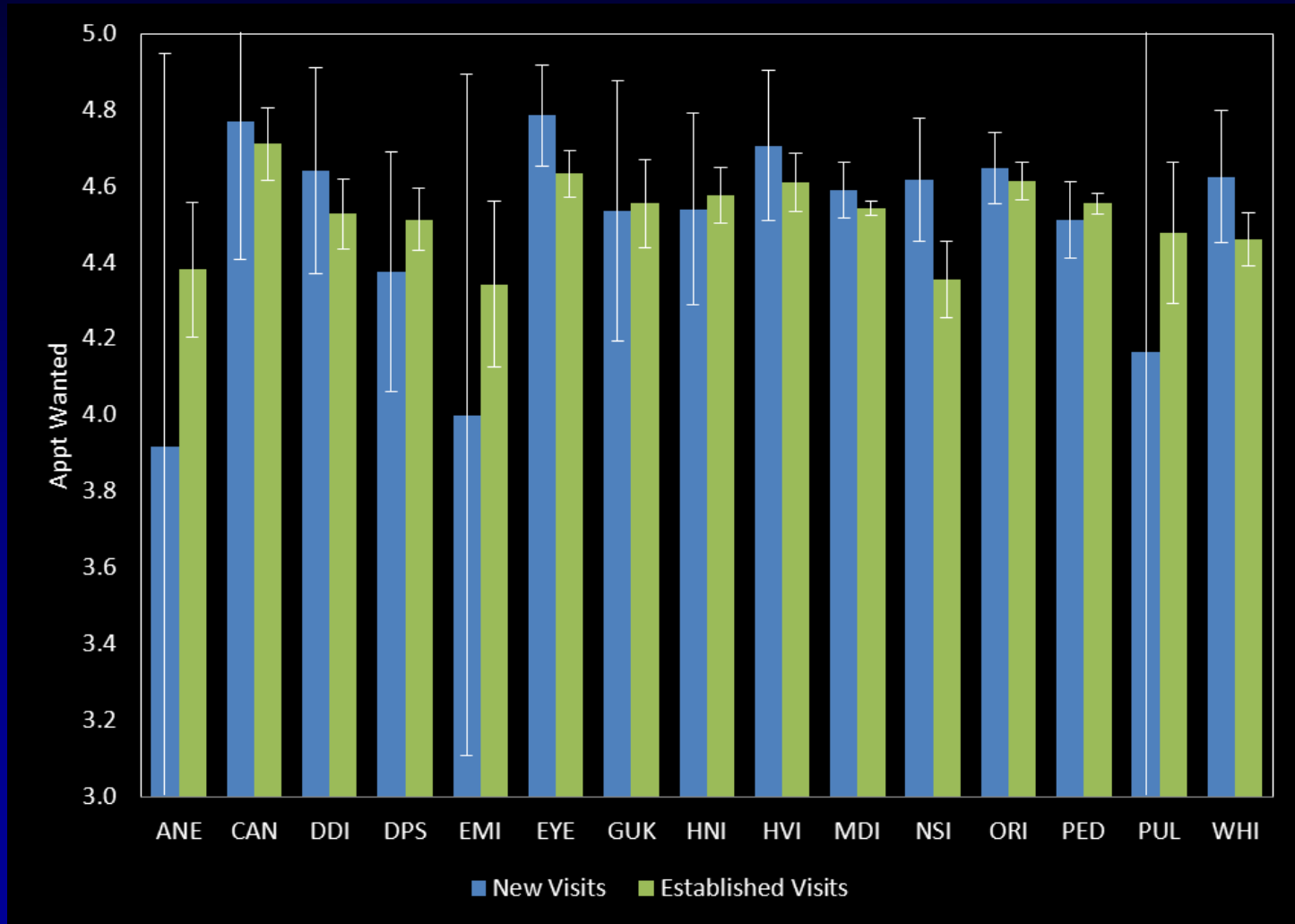


\* Error bars = 95% CI

# Satisfaction with Appointment When Wanted

## Same Day Appts by Service Line

June 2010 through December 2012



\* Error bars = 95% CI

# Travel Distance

## Same Day Appts

Service Area	13.8%
Beyond Srvc Area	5.5%

## New Visits

## Established Visits

### Days Wait

Service Area	<b>15.5 (15.2-15.8)</b>	<b>25.7 (25.6-25.9)</b>
Beyond Srvc Area	<b>21.0 (20.4-21.5)</b>	<b>33.2 (32.6-33.9)</b>

### Appt Wanted – All

Service Area	4.40 (4.38-4.42)	4.39 (4.38-4.40)
Beyond Srvc Area	4.52 (4.50-4.55)	4.52 (4.51-4.54)

(95% Confidence Interval)

**Relationship between patient  
satisfaction with appointment  
when wanted and days wait  
by service line**

# Effect of Days Wait

	New Visits	Established Visits
Same Day	4.59 (4.56-4.63)	4.55 (4.54-4.56)
1-7 days	4.58 (4.56-4.59)	4.50 (4.49-4.51)
8-14 days	4.47 (4.44-4.50)	4.40 (4.39-4.41)
15-21 days	4.42 (4.39-4.47)	4.37 (4.36-4.39)
>21 days	4.20 (4.18-4.23)	4.31 (4.30-4.32)

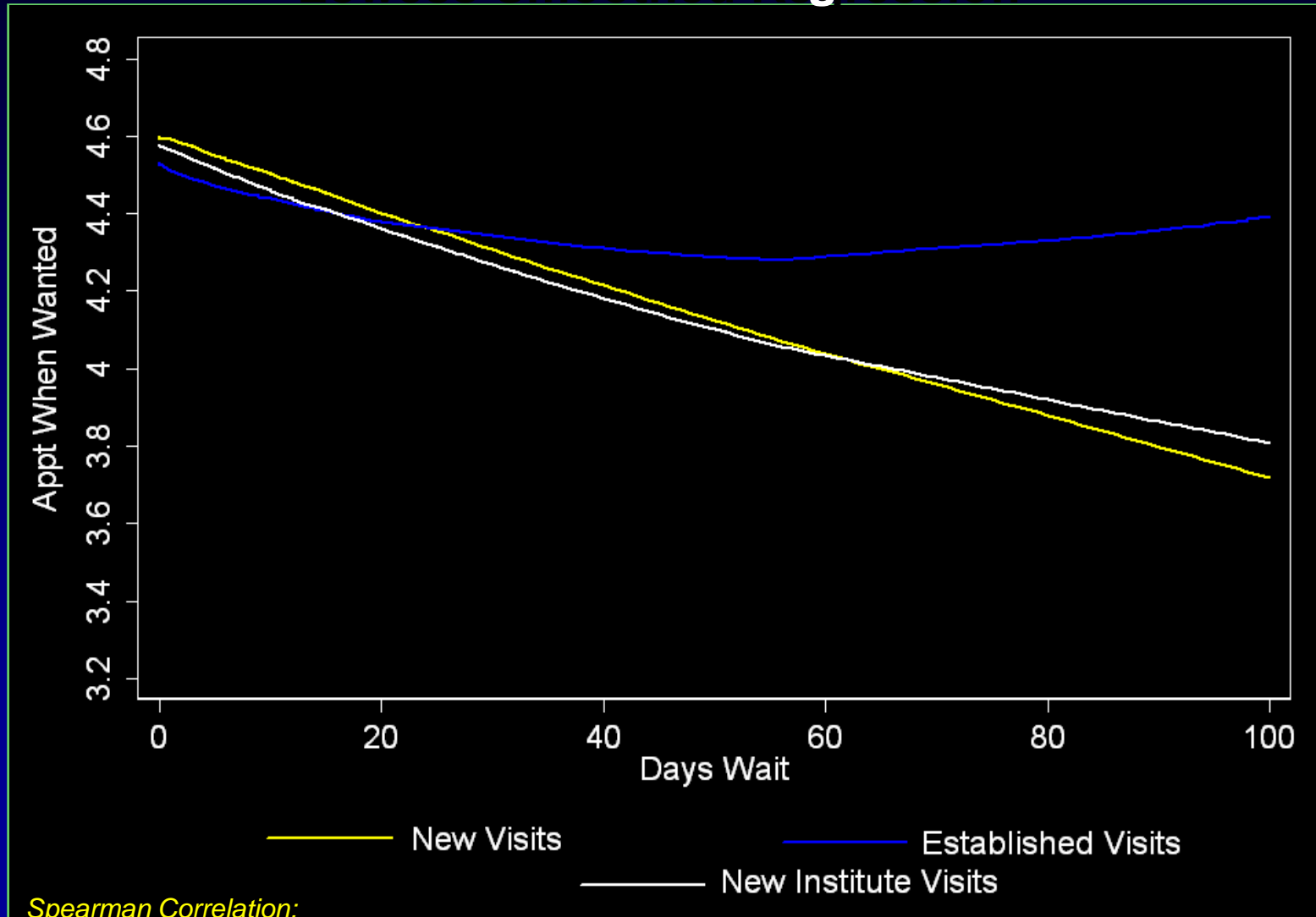
(95% Confidence Interval)



# Appointment When Wanted by Days Wait

## June 2010 through December 2012

### Lowess Smoothed Regression



*Spearman Correlation:*

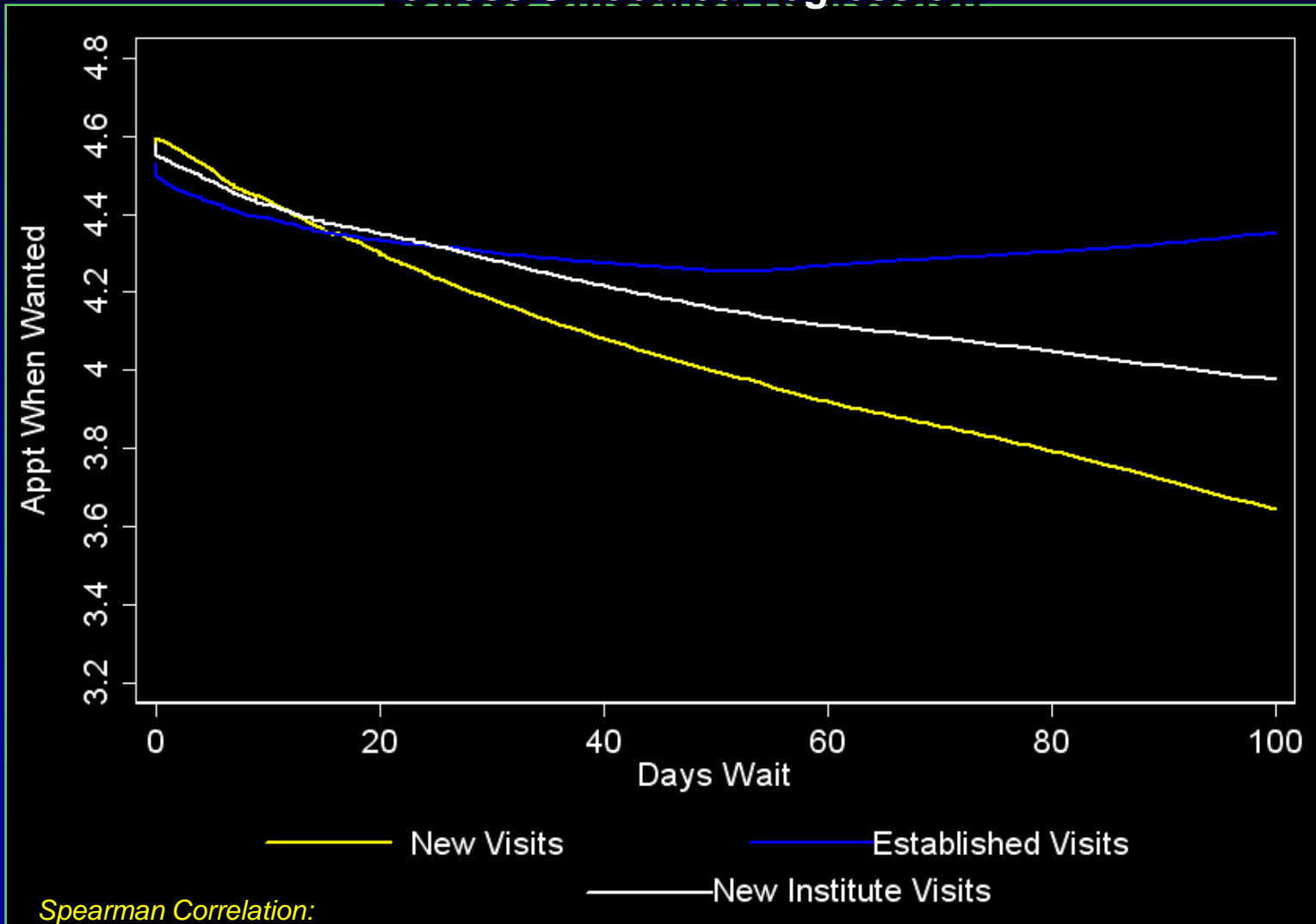
*New Visits: -0.181,  $p < 0.001$ ; Established Visits: -0.098,  $p < 0.001$ ; New Institute Visits: -0.192,  $p < 0.001$ ;*

# Medicine Institute

## Appointment When Wanted by Days Wait

June 2010 through December 2012

### Lowess Smoothed Regression

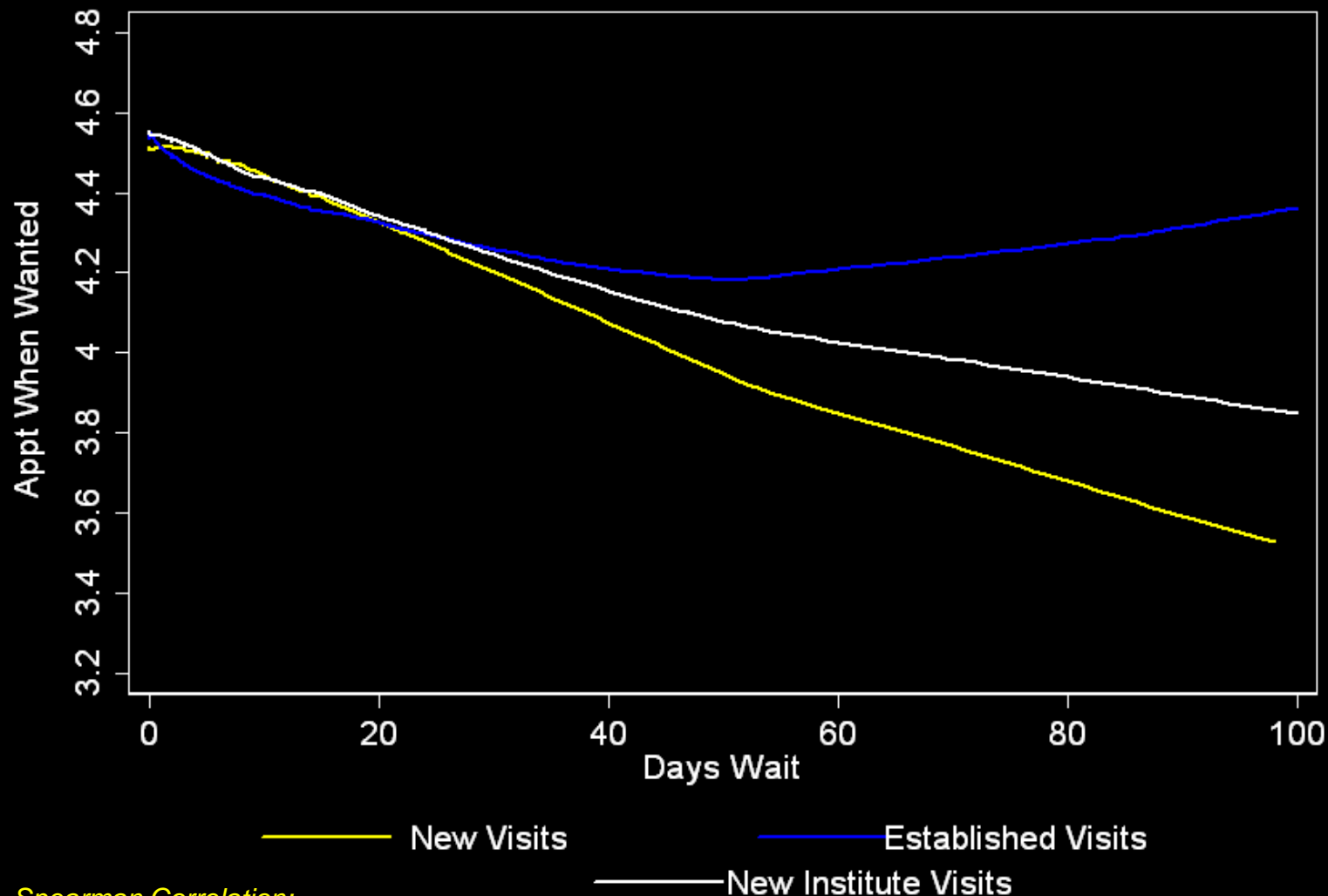


# Pediatric Institute

## Appointment When Wanted by Days Wait

June 2010 through December 2012

Lowess Smoothed Regression



*Spearman Correlation:*

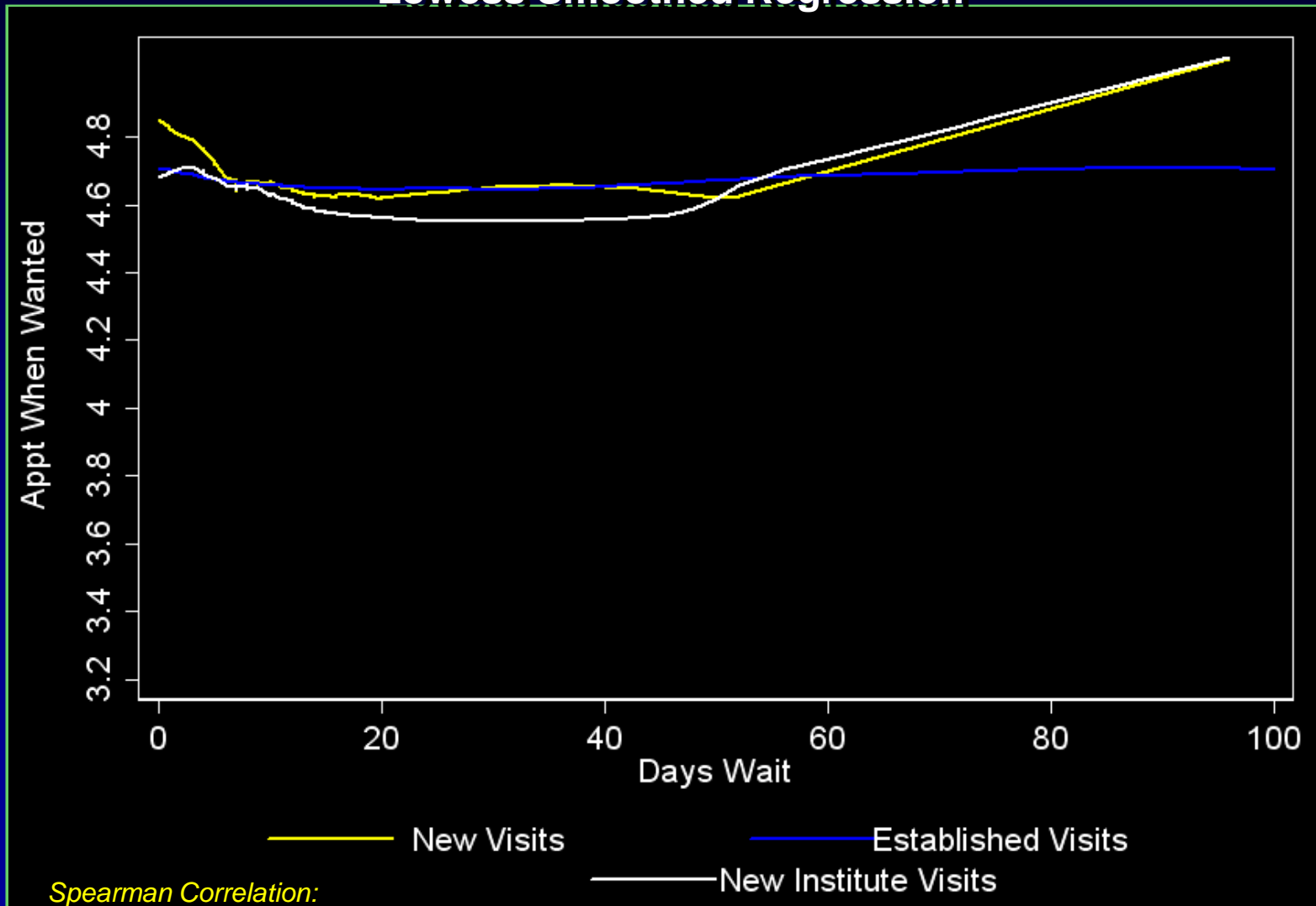
*New Visits: -0.197,  $p < 0.001$ ; Established Visits: -0.166,  $p < 0.001$ ; New Institute Visits: -0.181,  $p < 0.001$ ;*

# Taussig Cancer Institute

## Appointment When Wanted by Days Wait

### June 2010 through December 2012

#### Lowess Smoothed Regression



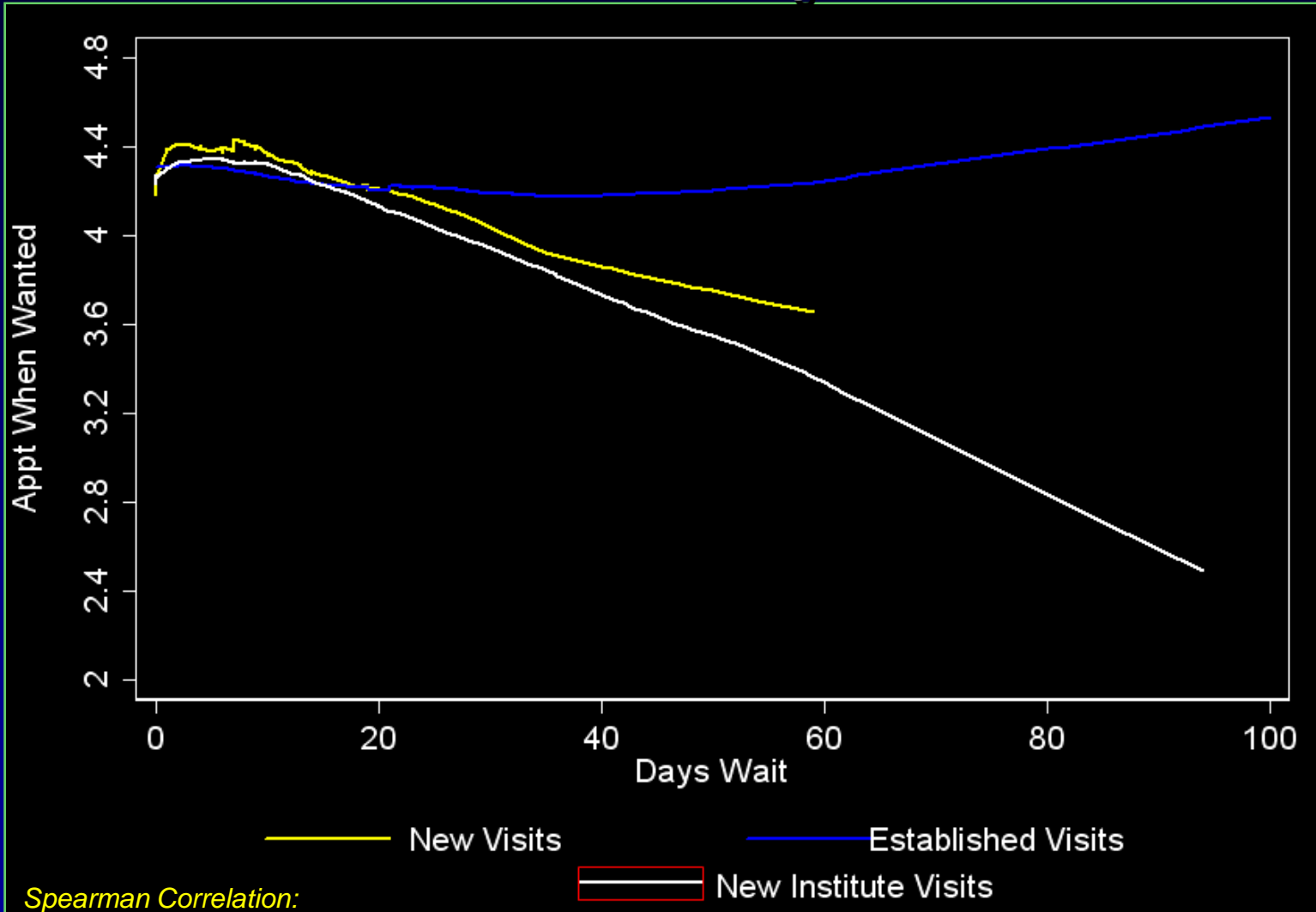
*New Visits: -0.109, p = 0.018; Established Visits: -0.011, p = 0.501; New Institute Visits: -0.101, p = 0.001;*

# Anesthesia Institute

## Appointment When Wanted by Days Wait

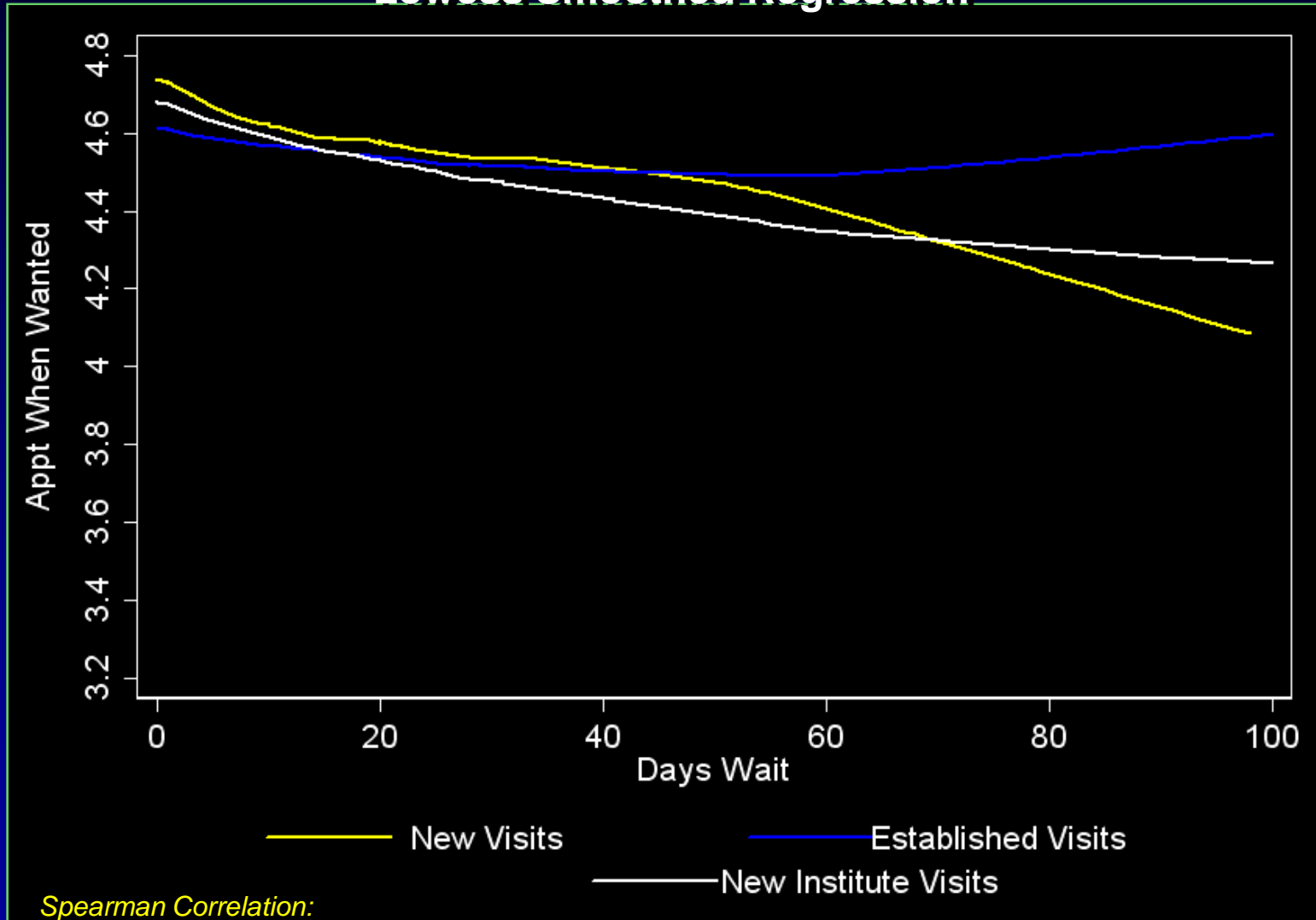
June 2010 through December 2012

### Lowess Smoothed Regression



New Visits:  $-0.145$ ,  $p = 0.051$ ; Established Visits:  $-0.029$ ,  $p = 0.203$ ; New Institute Visits:  $-0.192$ ,  $p < 0.001$ ;

# Heart and Vascular Institute Appointment When Wanted by Days Wait June 2010 through December 2012 Lowess Smoothed Regression

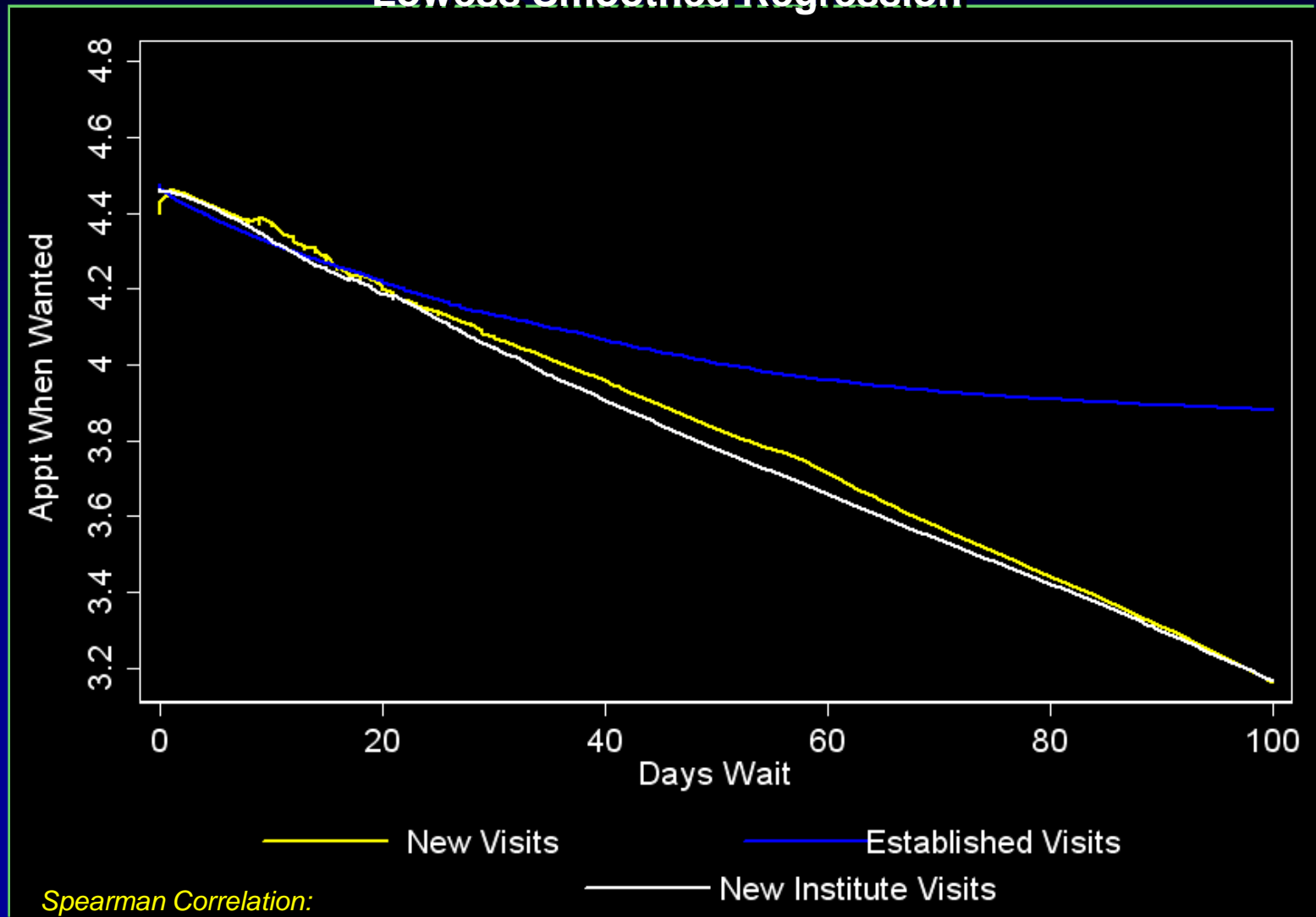


# Derm & Plastic Surgery Institute

## Appointment When Wanted by Days Wait

June 2010 through December 2012

Lowess Smoothed Regression



**Spearman Correlation:**

*New Visits: -0.239, p < 0.001; Established Visits: -0.188, p < 0.001; New Institute Visits: -0.308, p < 0.001;*

# Recap

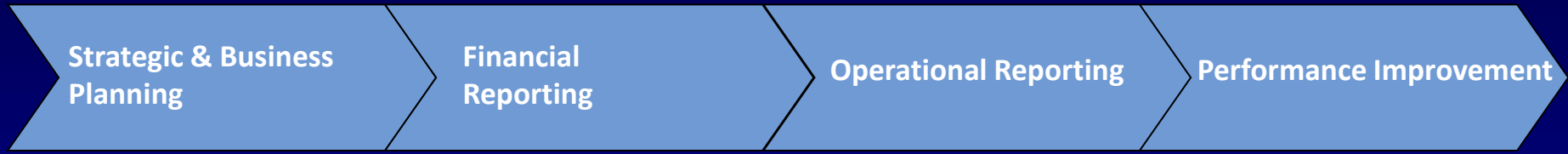
- **Established patients wait longer for appointments**
- **Same day appts are more likely week day and result in higher satisfaction**
- **Longer travel distance is associated with lower rates of same day appts, higher days wait, but similar satisfaction**
- **New visits have a negative, linear relationship with longer days wait while established patients have a bowl shaped relationship**
- **There are notable differences in these relationships across service lines**



# **Management Approaches for Stakeholders Engagement**

# Enterprise Business Intelligence

**Business Intelligence is an interrelated set of processes...**



**Enterprise Business Intelligence (EBI) is an *umbrella* term to describe a set of concepts and methods to improve business decision-making by using information in fact-based analytics, aligned with strategic priorities**

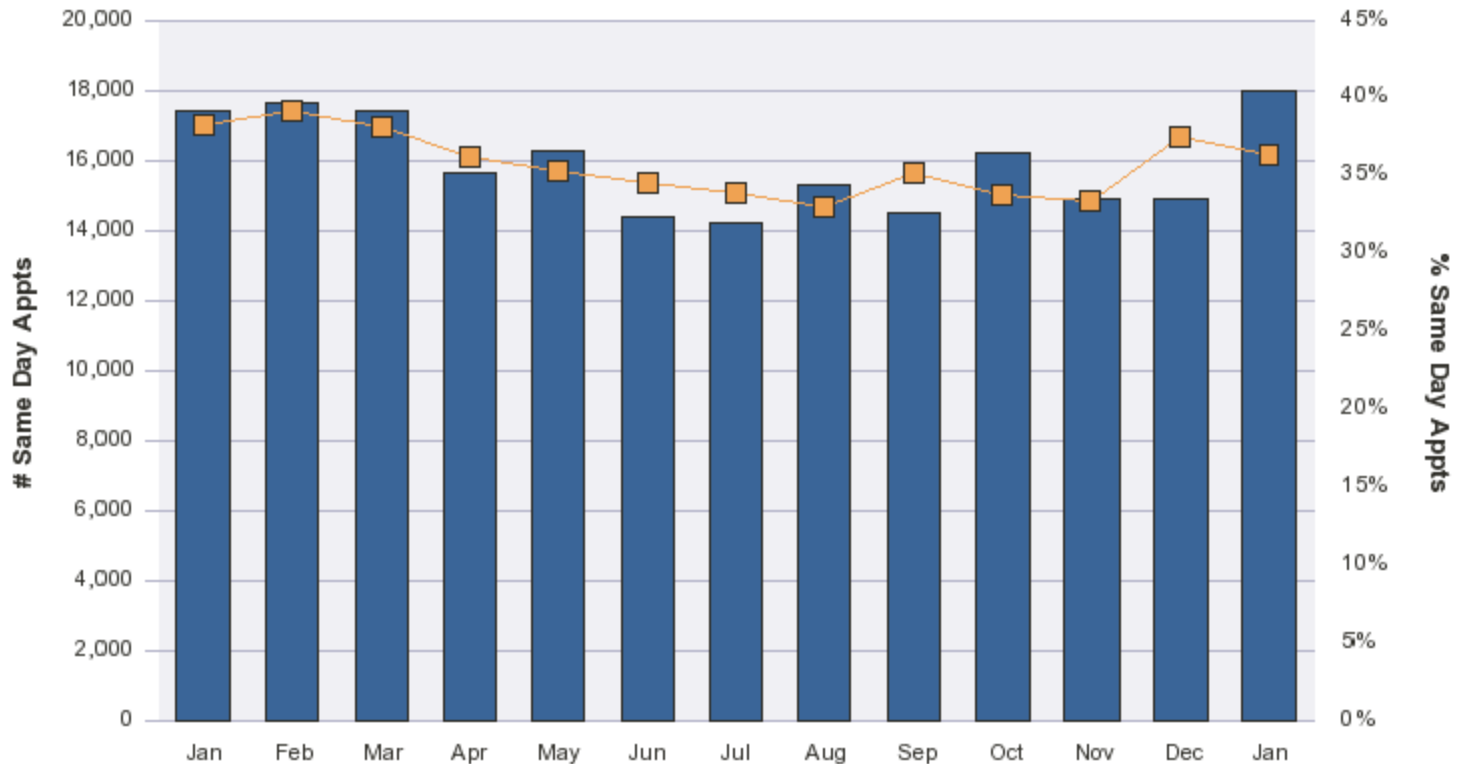
# Stakeholder Engagement Management Dashboards



## Same Day Clinic Access

### Trend Report for Medicine by Center

#### Medicine

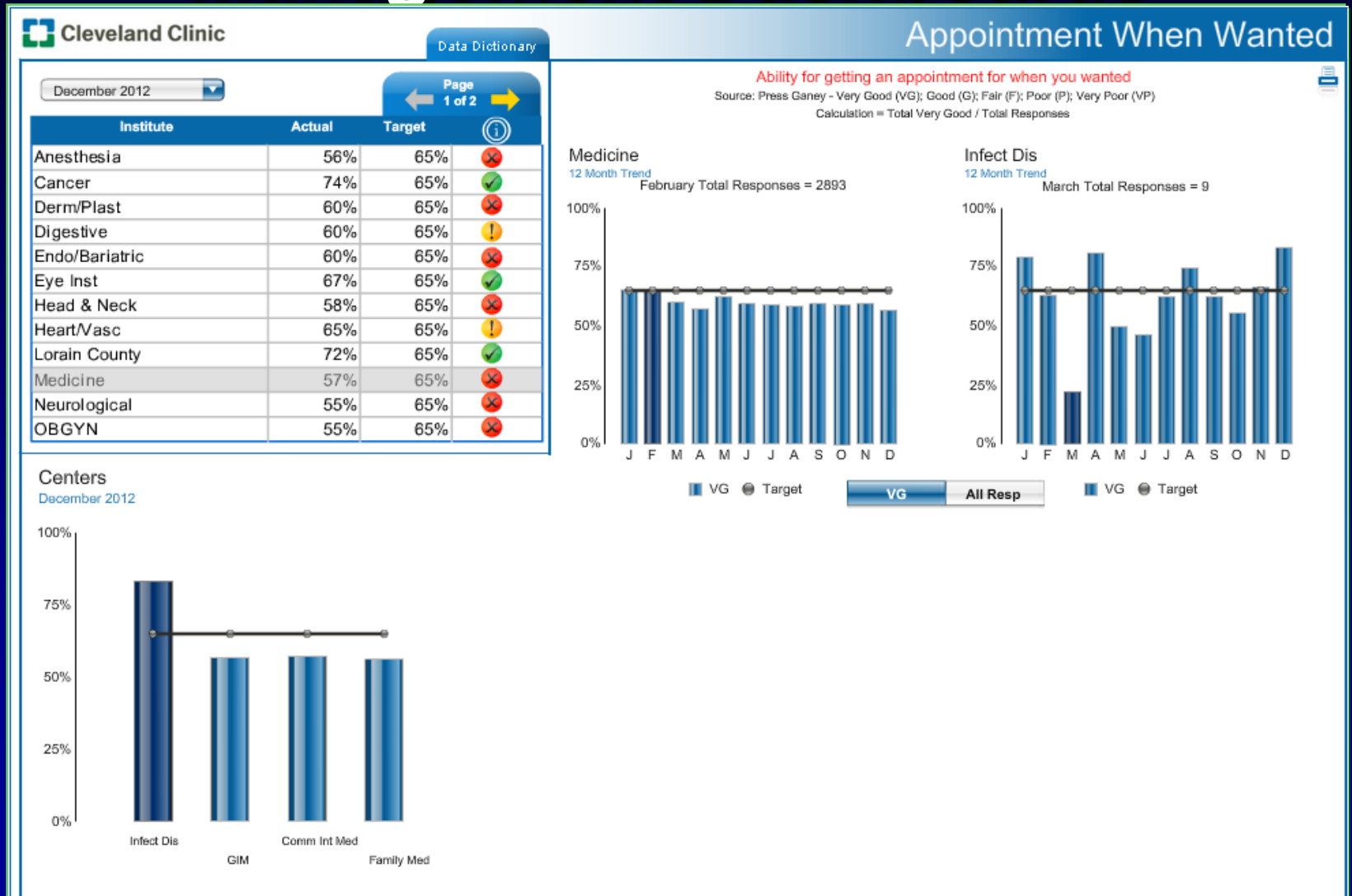


January 2013

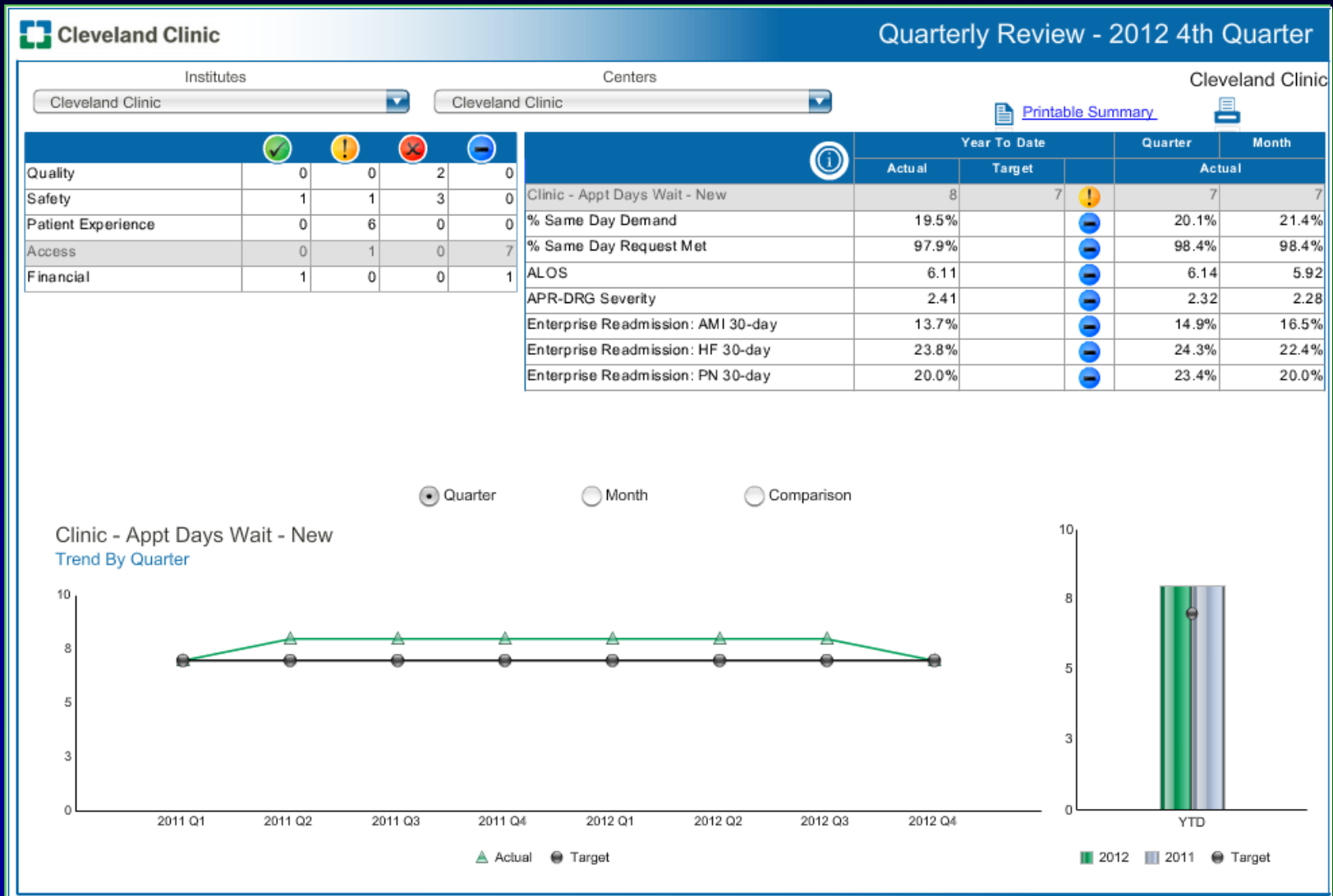
Institute

- Medicine
- Neurological
- OBGYN
- Ortho
- Pediatric
- Regional Operations
- Respiratory
- Urology
- Wellness

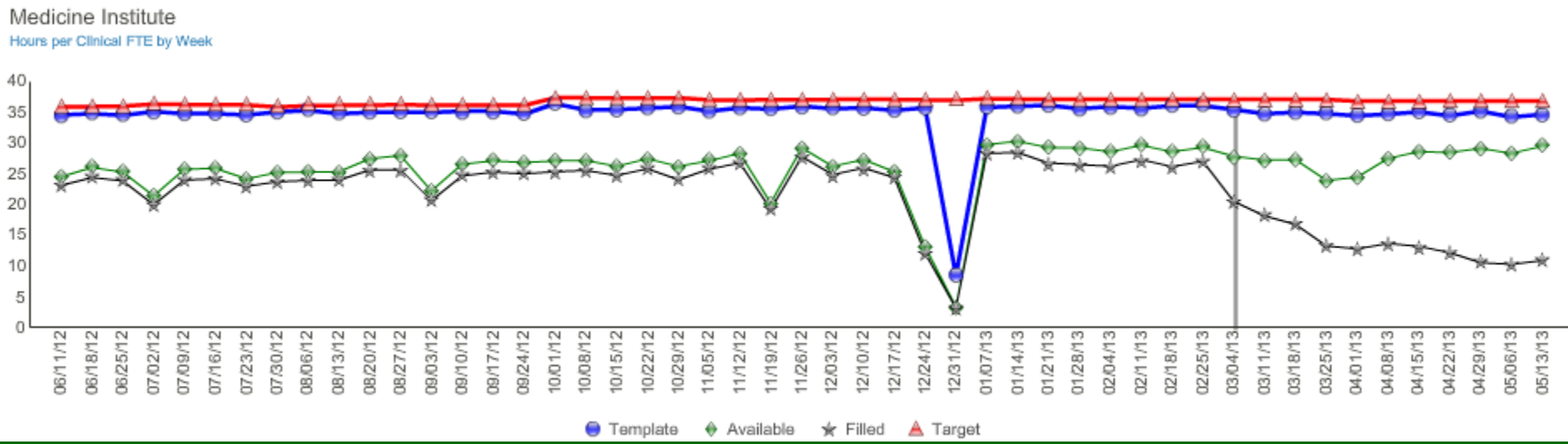
# Stakeholder Engagement Management Dashboards



# Stakeholder Engagement Executive Scorecard



# Forecasting Service Line Volumes



# Volume Forecasting

- **Identify service lines with looming access challenges to guide recruitment efforts and resource planning**
- **Maintaining access mitigates lower satisfaction scores**
- **Physician shortage and ACA changes will pose significant challenges to access**

# **Strategies to improve patient satisfaction with access to care**

- **Maintain access with innovative care delivery**
  - **Mid-level providers**
  - **Top-of-scope practice**
  - **Telemedicine/eVisits**
  - **After hours and weekend appointments**
- **Sub analysis of demographic and clinical factors predicting patients or conditions associated with lower satisfaction**



# Conclusions

- **Satisfaction with access to care is directly related to wait time to appointment especially for new patients**
- **Patients are more willing to wait for subspecialists vs. primary care visits**
- **Tailored strategies to maintain access and perception of wait time will improve satisfaction scores**



**Cleveland Clinic**

**Every life deserves world class care.**