

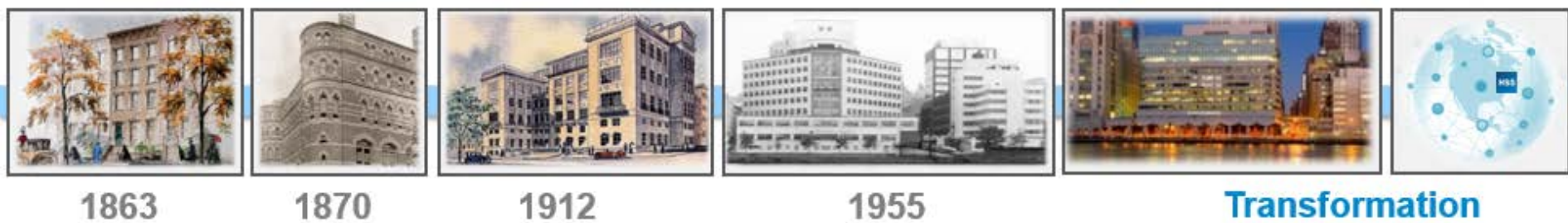
The HSS logo consists of the letters 'HSS' in a bold, white, sans-serif font, centered within a solid blue square. This square is part of a larger graphic element made of a grid of light blue squares of varying opacity, which is positioned in the top-left corner of the slide.

HSS

2018 Nicolas E. Davies Enterprise Award of Excellence

HSS Overview

A Legacy of Musculoskeletal Leadership



Mission

Provide the **highest quality patient care, improve mobility, and enhance the quality of life for all**, and to advance the science of orthopedic surgery, rheumatology, and their related disciplines through research and education.

Vision

Lead the world as the **most innovative source of medical care, the premier research institution, and the most trusted educator** in the field of orthopedics, rheumatology, and their related disciplines.

Values

Excellence. We set and continually raise the bar on all that we do. **Integrity.** We take pride in maintaining the highest levels of personal and professional conduct. **Teamwork.** We participate fully as members of our team, respecting, supporting, and empowering one another. **Creativity.** We support an environment that fosters new ideas and new approaches in everything we do. **Passion.** We bring energy, commitment, and enthusiasm to our work everyday

World Class Talent Singularly Focused on Musculoskeletal Care

Dedicated Interdisciplinary Team

~230 Orthopedic faculty, fellows, and residents specialized across 10 service lines

~250 Physicians in related medical specialties:

- Rheumatologists
- Perioperative Medicine
- Radiology
- Physiatry
- Pain Management
- Primary Care Sports Medicine
- Anesthesiology
- ID, Neurology, Cardiology

1,000+ PAs, NPs, RNs and PTs also specialized according to service lines

Cross-Continuum Care

Operative Care

Non-Operative Care

Rehabilitation

Research and Innovation

Education and Academic Affairs

Diagnostics and Imaging



Singular Focus on Musculoskeletal Medicine

Orthopedics

- Adult Reconstruction & Joint Replacement
- Foot & Ankle
- Hand & Upper Extremity
- Hip Preservation
- Limb Lengthening
- Metabolic Bone Disease
- Pediatrics
- Spine
- Sports
- Trauma

Rheumatology

- Inflammatory Arthritis
- Lupus
- Osteoarthritis
- Osteoporosis
- Pediatric Rheumatology
- Scleroderma, Vasculitis, Myositis

Related Disciplines

- Anesthesiology
- Infectious Disease
- Neurology
- Pain Management
- Pathology & Laboratory Medicine
- Psychiatry
- Radiology & Imaging
- Rehabilitation



2017 Performance

Leadership



#1 in Orthopedics

#3 in Rheumatology

#1 Orthopedic Residency Program

Value

99thile

Likelihood to Recommend

38th consecutive quarter

Fewer Complications

HSS 1.9%

National Average 2.8%

36% Non-Operative Second Opinion

Growth

32,500+

Surgical Cases

413,000+

Outpatient Visits

New Locations



130 Invention Submissions

30 Patents Filed

Financial Health

\$1.4B

Total Revenue

\$29M

Philanthropic Contributions

6.7%

Margin

\$66M

Grant Support

Patients from All 50 States and 100+ Countries* Choose HSS

>150K

Patients Cared For

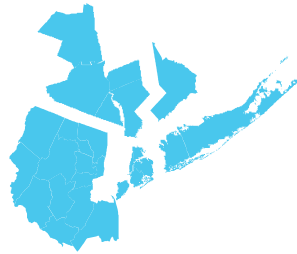
~32K

Surgeries Performed



New York City

36%



Tri-State Area

51%



Domestic

11%



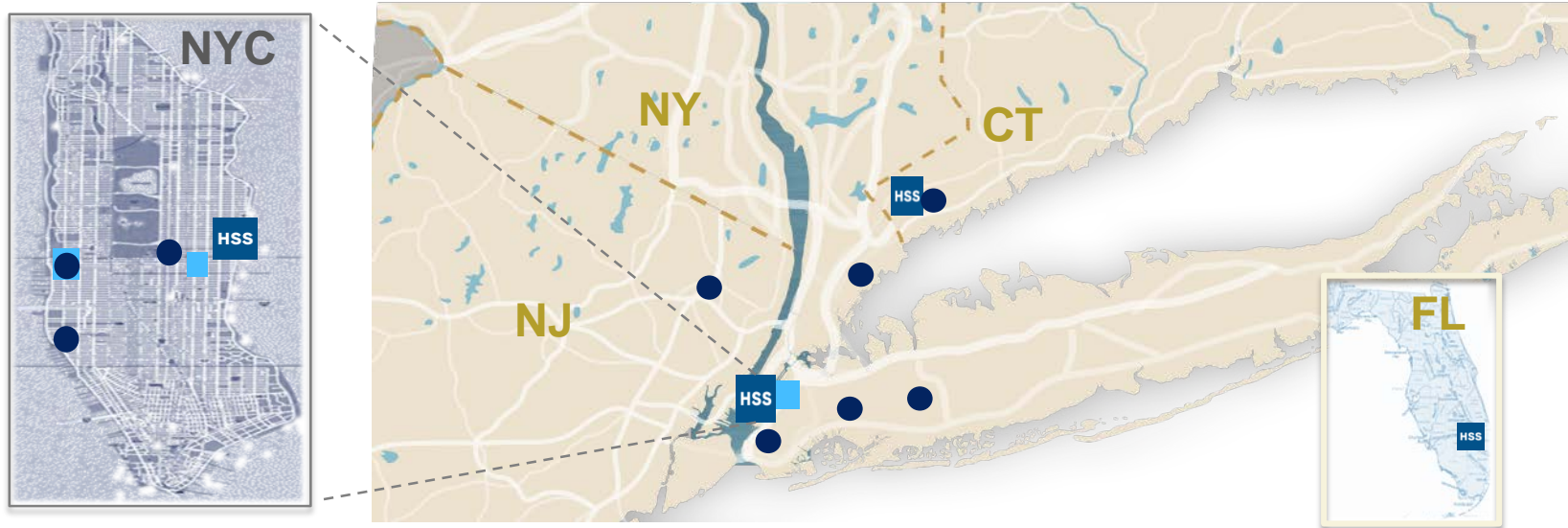
International

2%

Source: 2017 HSS IP & AMS surgical volume
Percentages are of surgical volume
*Over 3 years

HSS

An Extensive and Growing Delivery System



HSS Main Campus
Upper East Side, Manhattan, NY

- Main Hospital with 39 ORs, 215 beds
- Research Institute, Education Institute, Innovation Institute, other leading facilities



Planning 2025

Main Campus Transformation

HSS Stamford Campus
Stamford, CT
 HSS Stamford Health
 Collaboration

HSS Florida Campus
West Palm Beach, FL
 (2019)

Ambulatory Surgery Centers
Upper East Side, Manhattan, NY
West Side, Manhattan, NY (2019)

Employer Programs
 Include onsite services and other offerings to deliver greater value and more accessible care

Rehab Network
 Affiliated network of rehab centers to facilitate episode of care management

● Outpatient Centers

	<i>Madison Ave.</i>	<i>West Side*</i>	<i>Hudson Yards*</i>
MANHATTAN			
	<i>Long Island</i>	<i>Queens</i>	<i>Brooklyn*</i>
NYC METRO			
	<i>Paramus, NJ</i>	<i>Westchester, NY</i>	<i>Stamford, CT</i>
	<i>*anticipated 2019</i>		

Extending Value Proposition Beyond NYC



HSS

GLOBAL
VENTURES

Engaging in advisory relationships, management service arrangements, and operating partnerships to create a **global network of leading orthopedic providers** who bring HSS's cutting edge knowledge to the world

Global Ventures Examples

Academic Collaborations



HSS-China
Orthopaedic
Education Exchange



ΙΣΝ / SNF

ΙΔΡΥΜΑ ΣΤΑΥΡΟΣ ΝΙΑΡΧΟΣ
STAVROS NIARCHOS
FOUNDATION

Advisory Services



United Brazil

Hospital Medical Services



Hospital
Alvorada



BUMIN
HOSPITAL
GROUP

Management Services & Collaborations

HSS Connecticut

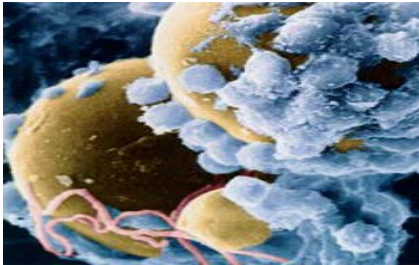
HSS Florida

Robust Pipeline



HSS

Cutting-Edge Research Advances Knowledge and Care



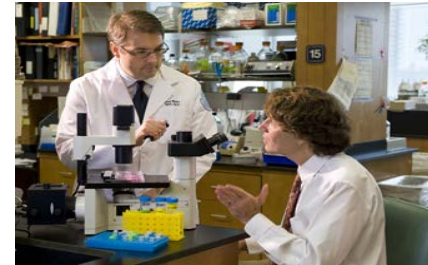
Bone Health

Making bones stronger



Autoimmunity & Inflammation

Improving the immune system



Soft Tissue & Spine Regeneration

Helping the body to heal itself

Genomics

Interpreting the body's blueprint

Precision Medicine

Studying disease mechanisms to personalize treatment for each patient

Healthcare Research Institute

Using historical data to improve future of patient care

Biomechanics

Engineering advances in orthopedics

MRI Research

Diagnosing patients less invasively and more accurately

**\$42MM 2017 EXPENDITURES | \$66M GRANT SUPPORT | 300+ SCIENTIFIC STAFF
47 REGISTRIES**

HSS

Extending Leadership Through Education



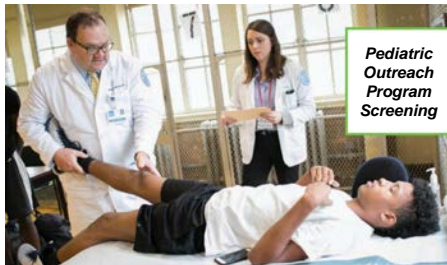
Engaged **99,450** individuals in educational programs in 2017



State-of-the art training and simulations using **Bioskills Education Laboratory**



Hosted **427** academic visitors from around the world in 2017



Improvements in **population health** through targeted programs in the community



Affiliated with **Weill Cornell Medical College**



600+ professional education **HSS eAcademy** online modules and onsite courses



Leading Results

RECOGNITION



#1 in Orthopedics
#3 in Rheumatology



#1 Orthopedic Residency for 3rd year in a row

CULTURE



7 to 1 ratio of engaged to disengaged employees based on Gallup Employee Engagement Score



1st in NYS to receive **4** consecutive Magnet Nursing designations

QUALITY



7 consecutive years of hip replacement infection rates lower than NY state average



Ranked as a **5 Star** hospital for Spine Surgery



Hip/Knee all cause readmissions **31%** better than national average



#1 in Nation for Joint Replacement, and in NY State for Spine Surgery



Only hospital rated 5 stars in NY State

PATIENT SATISFACTION



5th consecutive **Guardian of Excellence Award**



99th 'Likelihood to Recommend' for 38 consecutive quarters among Magnet hospitals

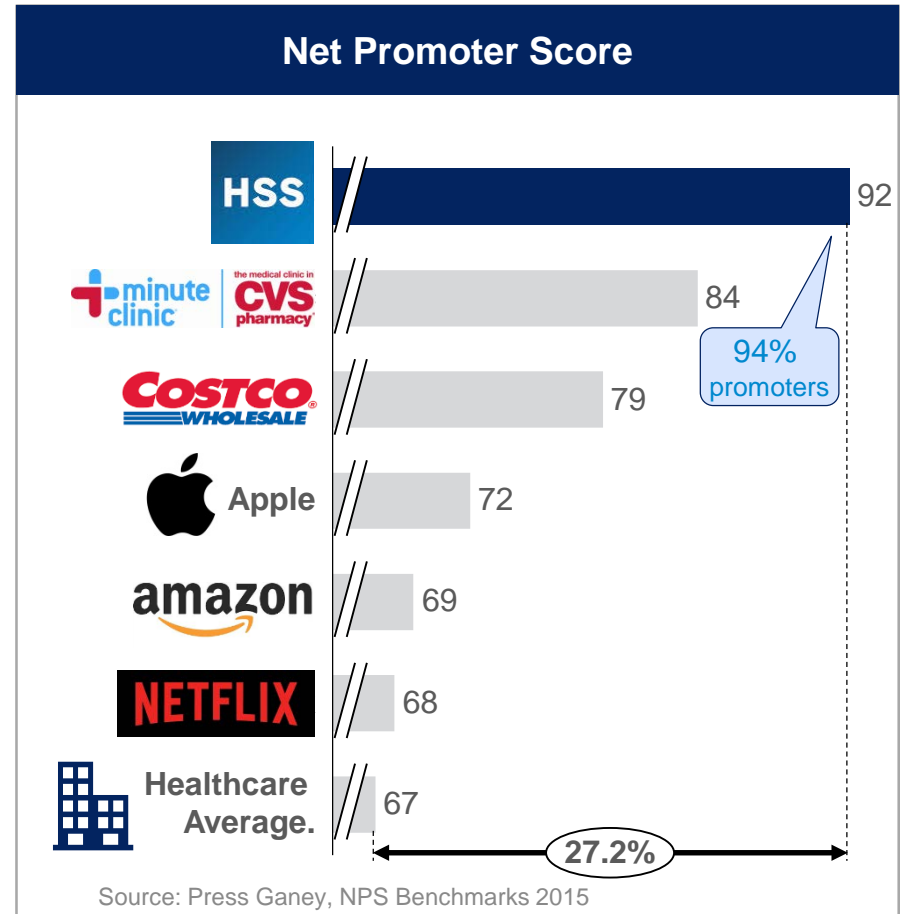
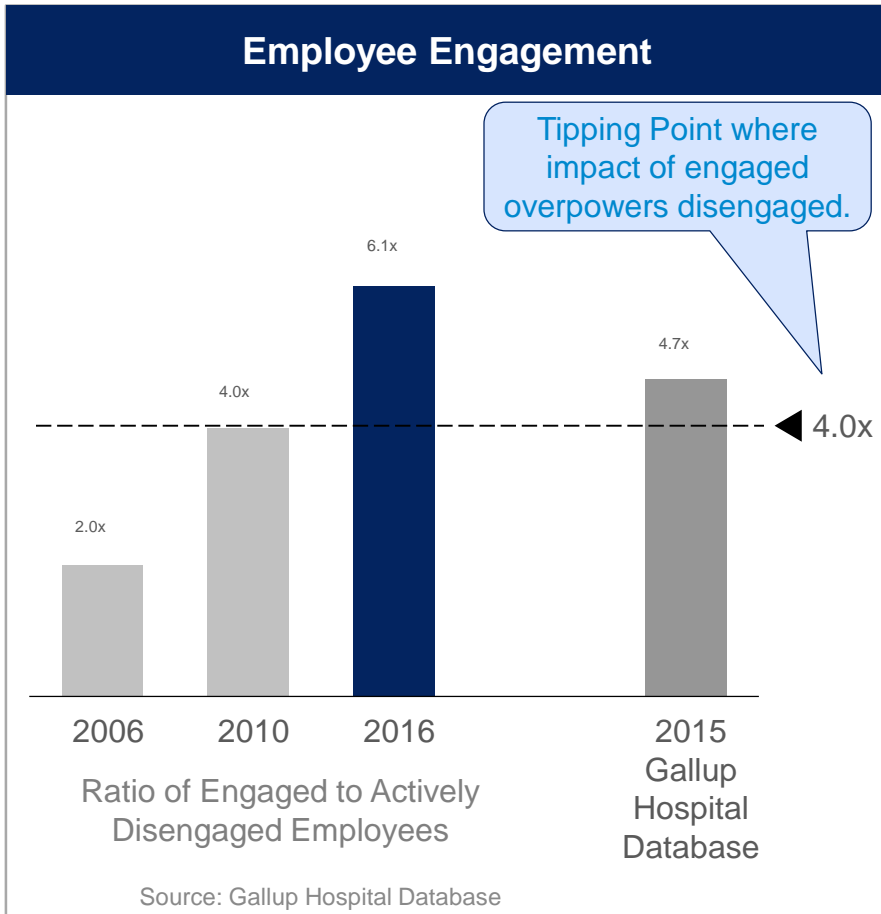


94%

Net Promoter Score vs. 67% Healthcare Average



Power of Culture



Actively Engaged Employees contribute to an industry leading Net Promoter Score, a measure of customer/patient satisfaction

Strategic Roadmap to 2020

HSS

Patient-Centered and Culture – Foundation for Current and Future Success

Journey

Better

Bigger isn't better. Better is better.

A comprehensive plan for our better to succeed against others' bigger. Our better includes being bigger, but while maintaining our independence and leveraging our strengths



Knowledge



Focused Factory

Produces superior outcomes from our specialization, high volumes & repeatable processes; serves as our economic foundation

Knowledge Factory

Leverages and spreads our expertise to reinforce our leadership, broaden what we do; becomes an important part of our economic foundation

Scale

Achieve 'focused scale' in Musculoskeletal Health

HSS's commitment to care delivery, research, innovation and education will extend its reach and impact through new musculoskeletal products and services, while serving a global market



Capabilities

Shared Leadership

Enabling everyone at HSS to work towards the same goals and take responsibility for the collective success of the organization



New Ideas

Launching and commercializing novel solutions that improve care and fuel our "Knowledge Factory"



New Alignment

Providing the structure and environment that allow important stakeholders to pursue new opportunities, providing economic and strategic alignment



Initiatives

Initiatives will vary from year to year but will continue to support our key strategies.

- Value Proposition
- Alignment
- Efficiency
- Growth

Select Initiatives

- Epic Transformation
- HS²
- HSS Orthopedics
- Innovation Center
- Main Campus Development
- New Care Delivery Models
- Regional & New Market Expansion
- Value Proposition

Enterprise Success

Leadership

Distinction in reputation, rankings and academics



Value

Top performance in quality, outcome and value measures over episode of care



Growth

Growth across markets and through knowledge-based initiatives



Financial Health


Robust financial health for ongoing success of the organization





PATHWAY TO SUSTAINED LEADERSHIP IN MUSCULOSKELETAL HEALTH


Foundation: Patients | Research | Education | Community | Culture

Technology Roadmap to 2020


 Build Strong Technology Foundations enabling cost-effective, standardized and agile delivery of services (Core IT).

 Establish an Information Security Program with dedicated leadership, active executive team engagement, management of third-party relationships and increased patient confidence in security protections (Risk).

 Develop Enterprise-Level Business Intelligence and Data Analytics capabilities enabling new discovery, innovation and value (Knowledge).

 Define a Patient Experience Strategy essential for sustaining market position, enhanced care coordination and “Better” (Brand/Value).

 Align IT Service Expansion Model to respond to market growth and pending facility changes to existing campus (Growth).

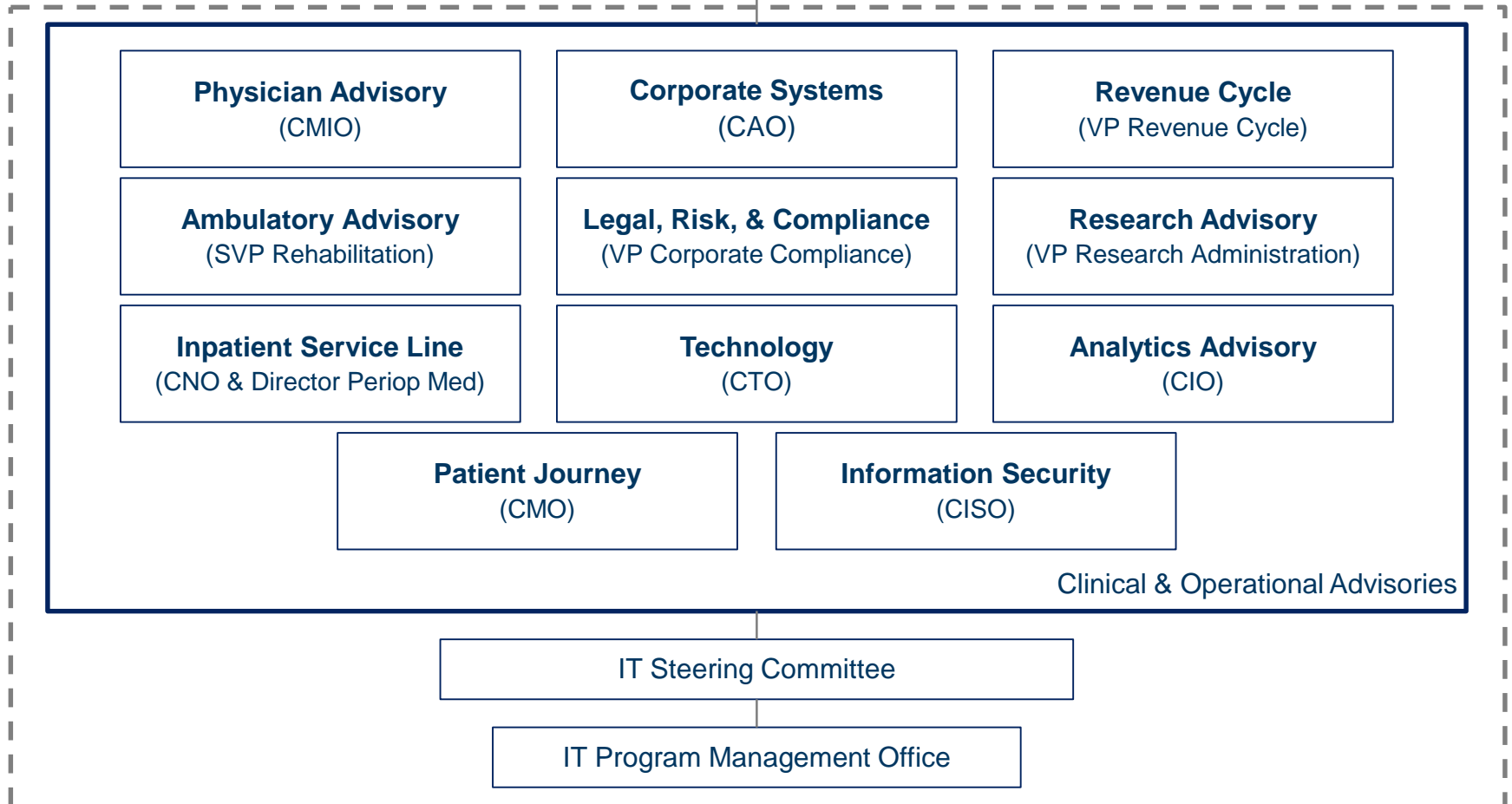
 Evolve the IT Governance Process for stakeholders seeking broader engagement and shared decision-making (Shared Leadership).

Create New IT Partnerships supporting Innovation Center, Value Management and Patient Experience initiatives (Alignment).



IT Governance

HSS Executive Leadership



Clinical & Operational Advisories

IT Steering Committee

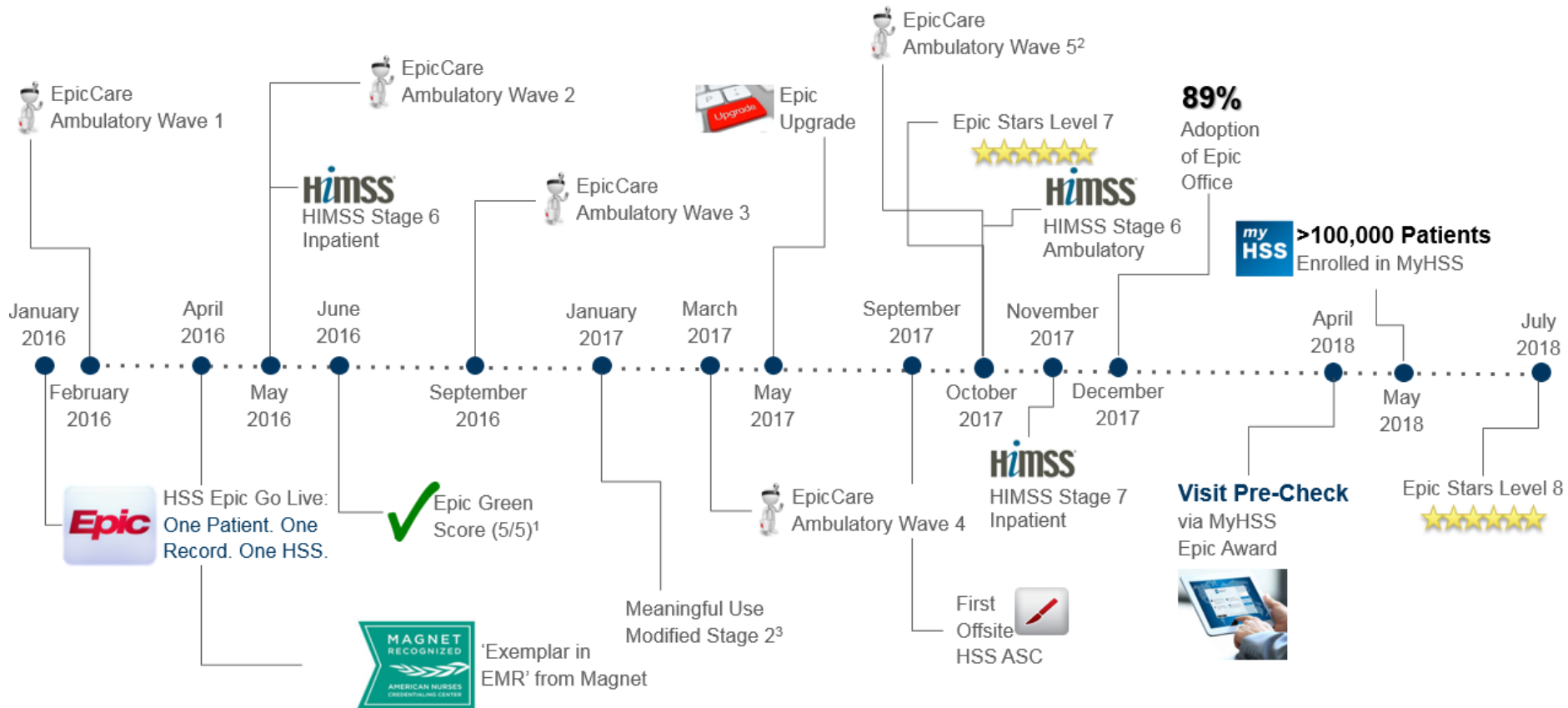
IT Program Management Office

Working Groups for Content Management, Process Modeling, & Application Development

IT Enterprise Overview



EMR Successes



¹Received an 'Excellent' rating from Epic within the first six months of Go-Live, placing HSS in the top 7% of all Epic implementations.

²Added two additional Ambulatory waves at the request of HSS surgeons.

³As of last week, HSS is the 15th client ready to attest for Meaningful Use Stage 3.



2018 Nicolas E. Davies Enterprise Award of Excellence

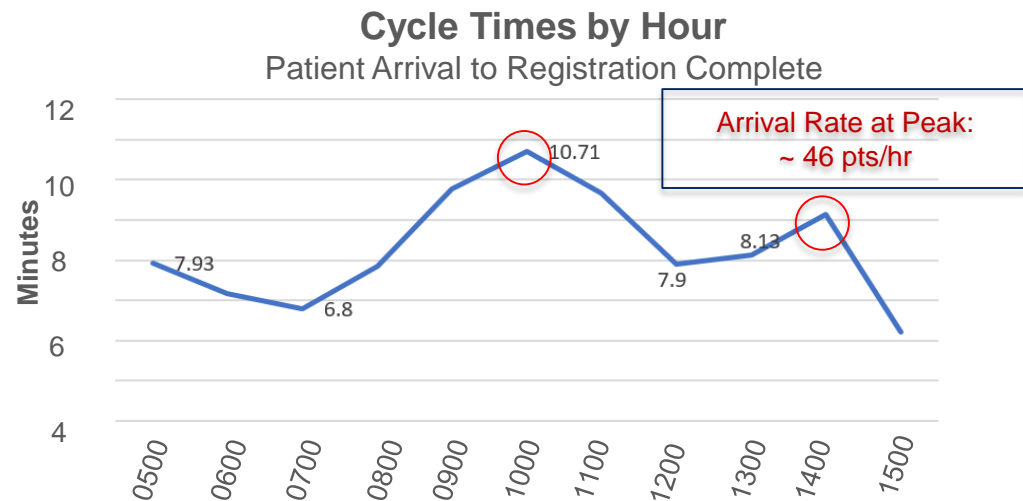
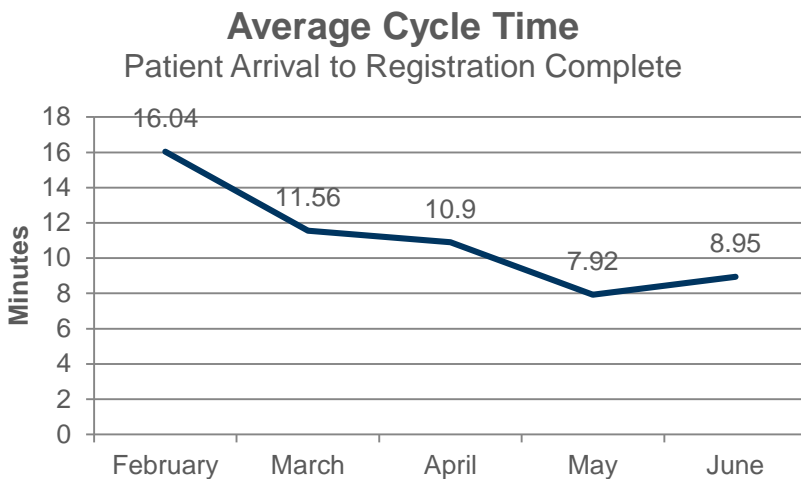
Case Study: Reduction of Peak Wait Times in Patient Arrival

Melissa Taylor

Vice President, Patient Access Services

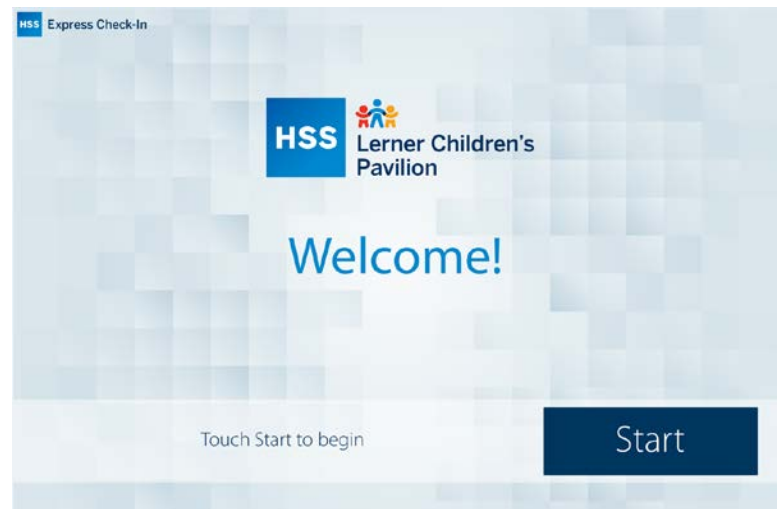
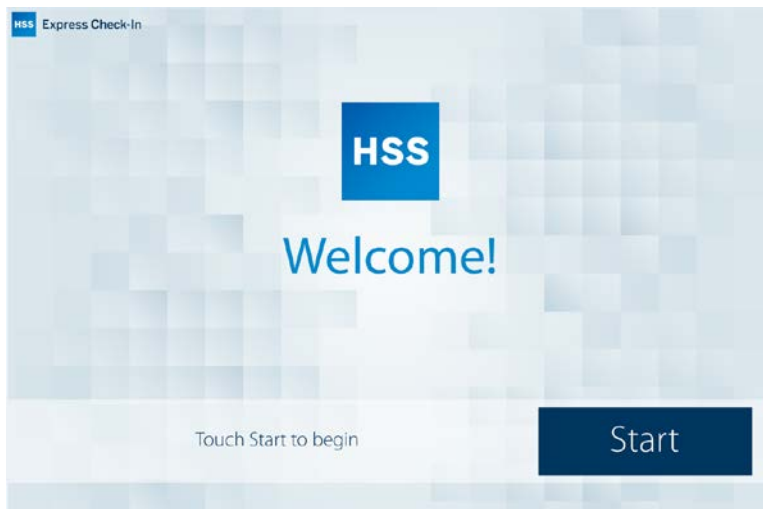
PAS Peak Arrival Problem Background

- The centralization of Patient Access Services (PAS) staff to the main lobby in 2016 proved to be a more reliable model for the hospital admissions process
- Despite reductions in overall cycle time, patients arriving at peak hours experienced undesirable service levels
- Operational leadership quickly linked the peaks with the Pre-Surgical Screening (PSS) patients arriving for their mandatory pre-op education class
- With budget and space limitations in place, the PAS team looked to find a solution to create additional server queues to improve the patient experience

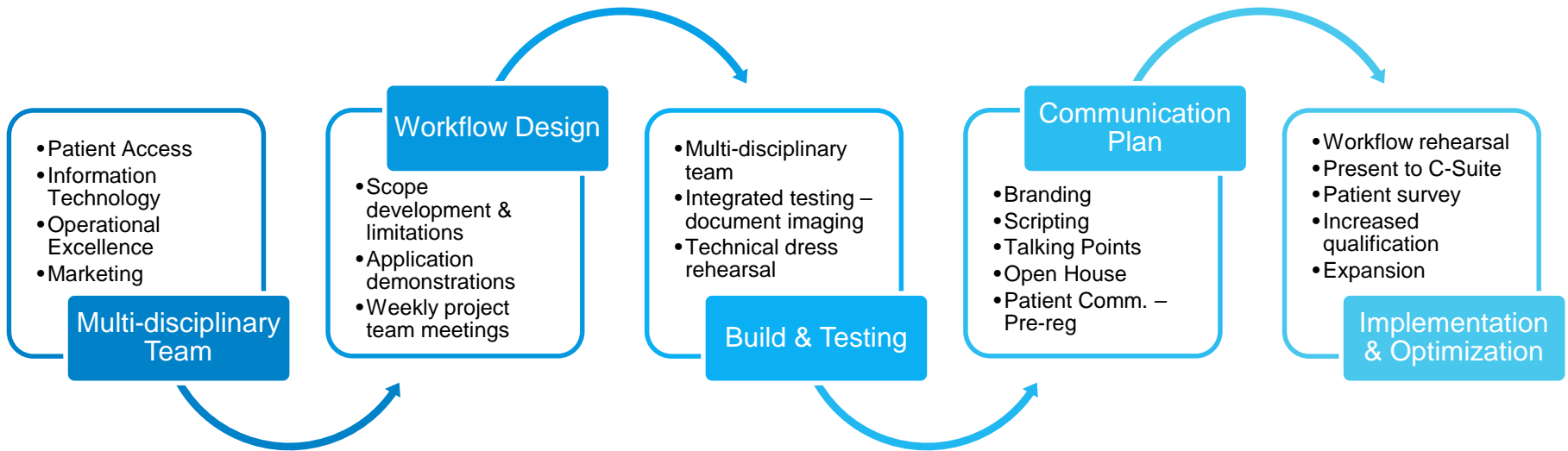


Technology Leveraged - Welcome

- Introduces the ability to acknowledge patient preference for self-service
- Serves as a highly visible indicator of first-class technology at HSS
- Improves and standardizes the patient experience, especially at peak arrival times
- Helps to maintain service levels as ORs or other services expand
- Pre-registration rate consistently > 98%
- Brand as HSS Express Check-in



Design Process



Express Check-In Pilot Design

Pilot Eligibility Guidelines

- Patient, HAR, and Coverage items are verified
- Speak English with no interpreter needs
- No International Embassy/Non-Embassy patient types
- No Inpatient Surgery Admits or Inpatient patient class
- No visual impairments
- No to Executing Advance Directive or AD already on file
- No self-pay or DNB patients

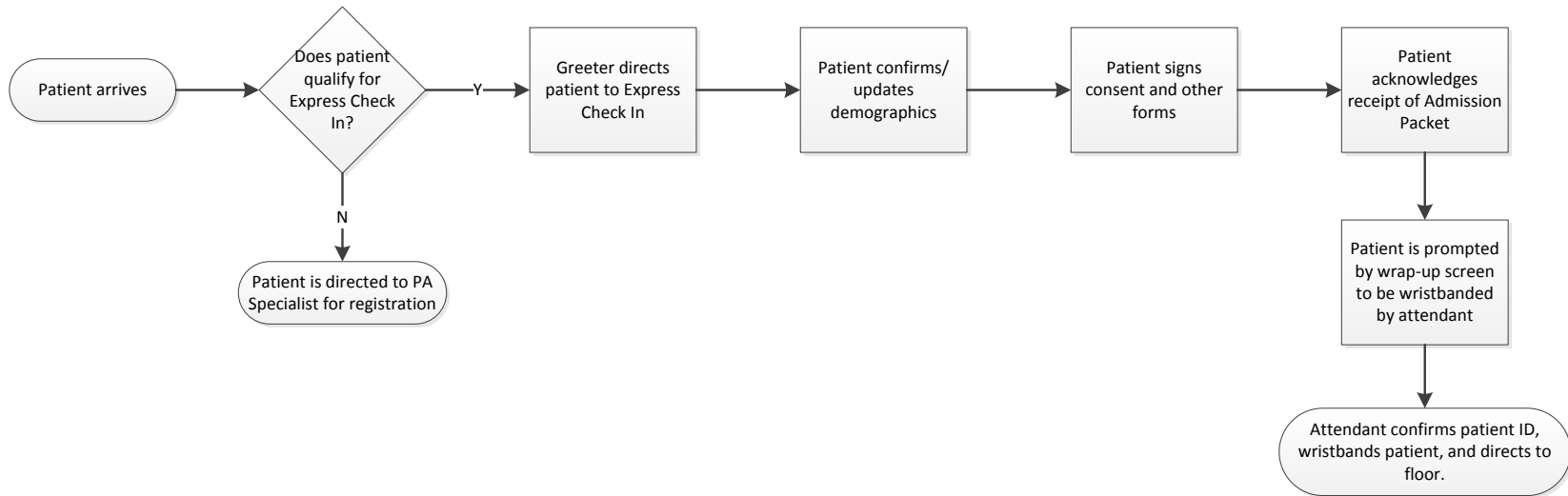
Anticipated Operational Impact

	Current State	Proposed Pilot
Patient Queues	6	8
Probability that all PAS are busy	41%	7%
Probability that at least one PAS is available	59%	93%
Percent of Patients Eligible for Express Check-in	0	20%*
Average Cycle Time (including wait)	8 min	6 min
Estimated Express Check-In Cycle Time	N/A	3.5 min

* Over 40% of patients were expected to be eligible. Calculations illustrated a conservative 20% adoption rate.

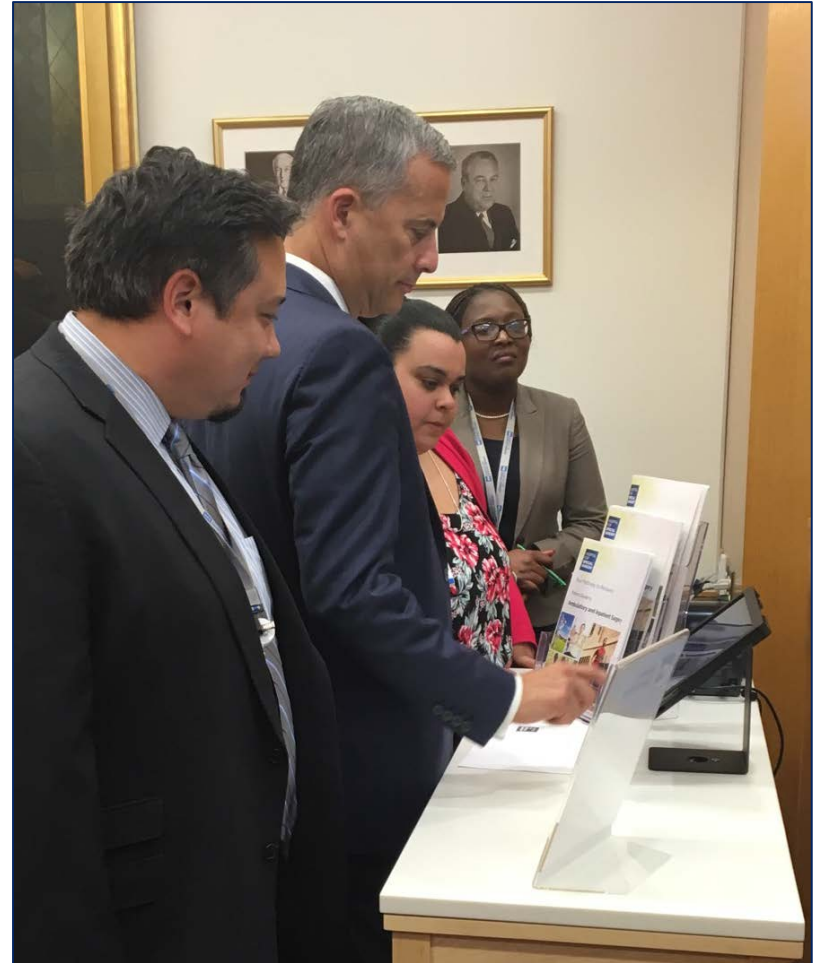


Workflow Design

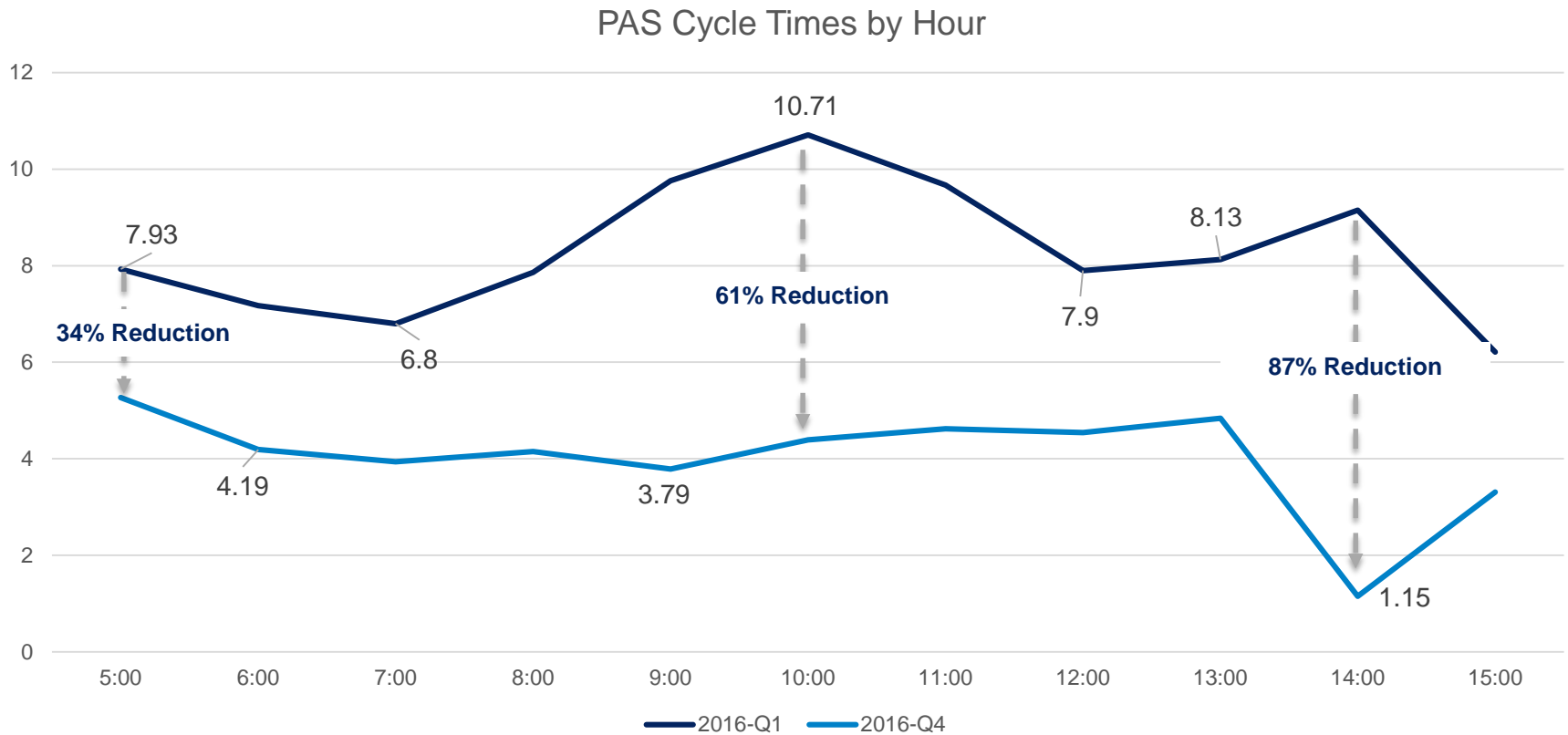


Success Factors & Lessons Learned

- Frontline staff involvement, scripting, and dress rehearsals
- IT boots on the ground support allowed for real-time refinements
- Surveyed patients post-use for feedback to improve experience
- More patients qualified than planned, which created more time with patients who needed it
- Taught PAS team to troubleshoot device problems



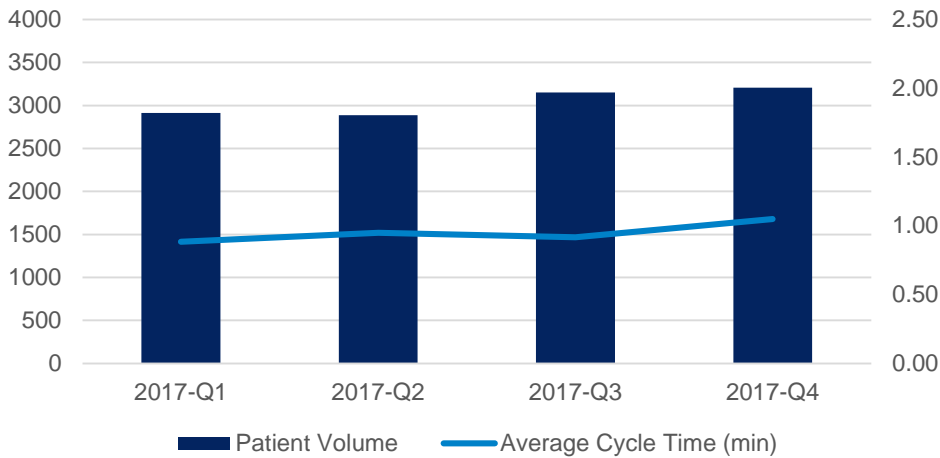
Results of Implementation



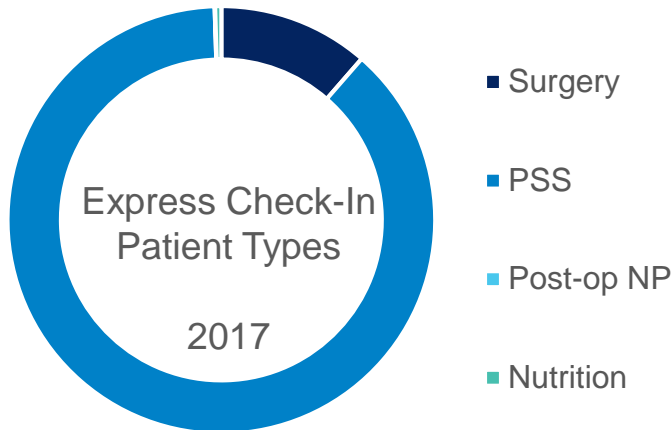
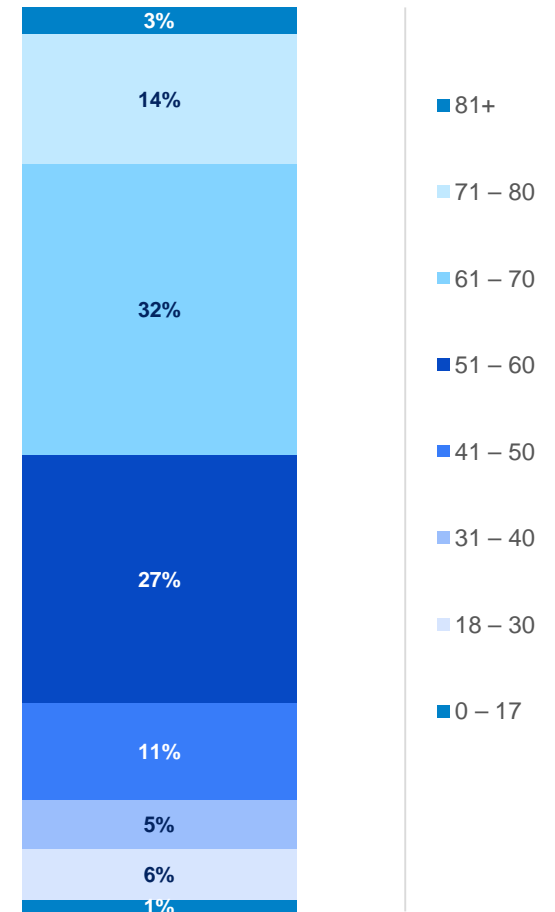
- Neutralized the impact of arrival peaks on service levels
- Additional reduction of cycle time and standardization of the patient experience

Monitoring & Maintaining Express Check-In Performance

Express Check In Volume and Average Cycle Time

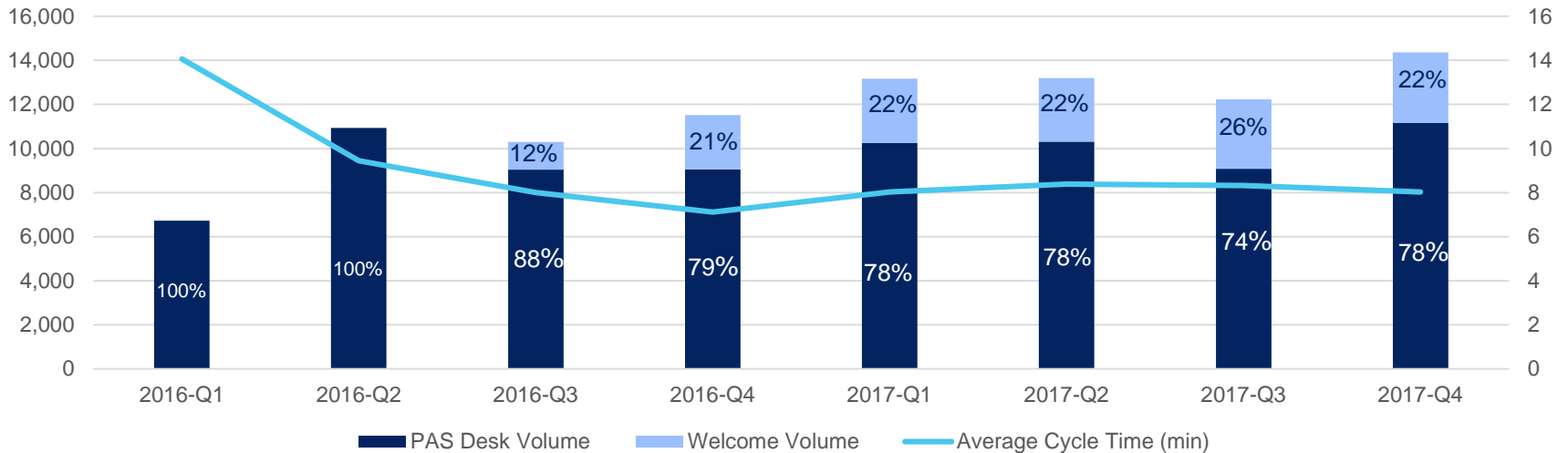


Express Check-In Usage by Age

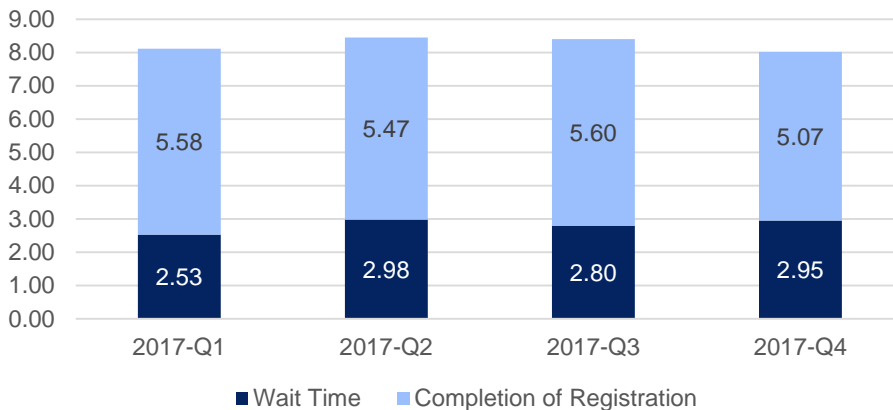


Monitoring & Maintaining Service Levels

PAS Volume vs. Average Cycle Time



PAS Desk Cycle Time

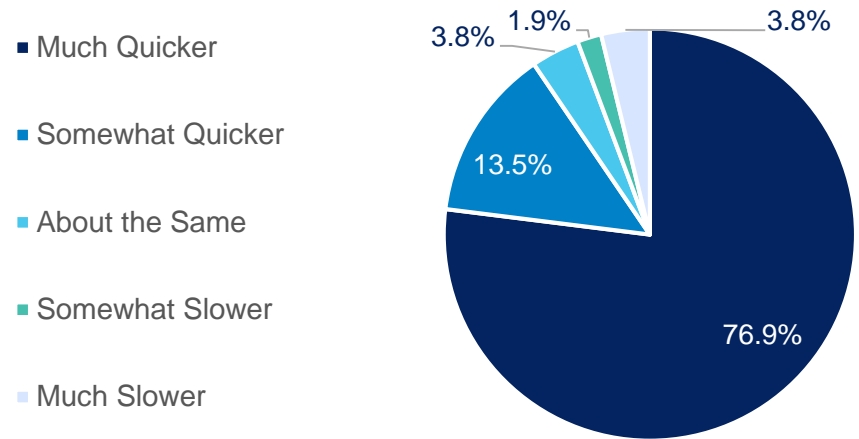


- Sustained decrease in overall PAS cycle time
- Demonstrated ability to take on more volume without impacting service levels



Patient Feedback

Compared to traditional check-in processes at other medical centers, do you feel the HSS Express Check-In process was...



Speed of Admission

4.6% Increase
from Q2 2015 to Q2 2017

Courtesy of Representative

2.4% Increase
from Q2 2015 to Q2 2017

