SOLUTIONS SUMMIT XVI

LAS VEGAS APRIL 28-30, 2013

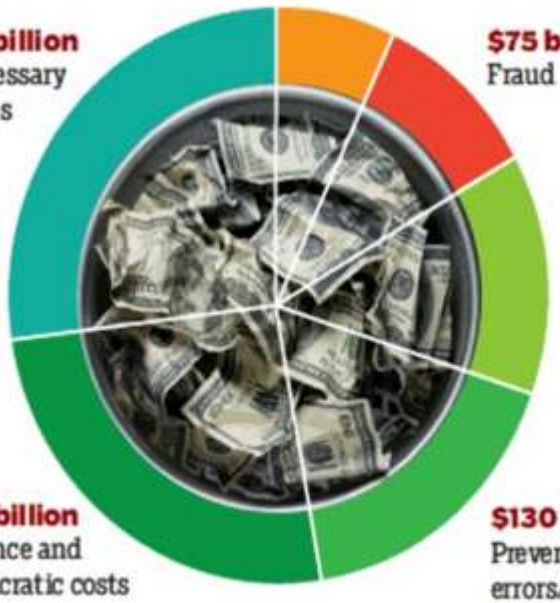
LEADERSHIP IN A NEW AGE FOR HEALTHCARE

Joe Guarisco MD FAAEM FACEP

April 30, 2013

Las Vega, Nevada

Wasted Spending In Health Care Amounts to $765 Billion



$55 billion
Missed prevention opportunities

$75 billion
Fraud

$105 billion
Excessive prices

$130 billion
Preventable errors/mistakes

$190 billion
Insurance and bureaucratic costs

$210 billion
Unnecessary services

Today's Top News

1. Medical groups call out 90 more over-used, unnecessary treatments

By Alicia Caramenico

The U.S. healthcare system is stepping up efforts to encourage physicians and patients to choose cost-efficient care. Today, 17 medical specialty societies identified 90 more tests and treatments that they say are overused or inappropriate, bringing the total to 135, the American Board of Internal Medicine announced.

Additions to the "Choosing Wisely" campaign, which pinpoints the major sources of unnecessary care, include:

- Elective induction of labor or C-section deliveries before 39 weeks: By reducing early deliveries without medical cause, hospitals can cut costs without compromising care, given new research that shows hospitals waste billions of dollars on unnecessary cesarean sections.

- Automatic use of CT scans to evaluate children who visit hospital emergency departments with head injuries: Studies have associated CT scanning with radiation exposure that could significantly increase the risk for cancer. Moreover, researchers recently determined repeat CT scans are unnecessary for patients with mild head trauma if the condition is unchanged or they have improved neurologically.

Today's Top News

1. Hospitals demand $186M in Medicaid backpay

By Karen Cheung-Larivee

The Maine Hospital Association is demanding Medicaid pay $484 million in reimbursements that are three years overdue, the 39-hospital group said.

Maine has one of the highest percentages of residents in the Medicaid program, *The Wall Street Journal* noted. Out of the $484 million that MHA says it is owned, $300 million of it would be reimbursed by the government.

In the first advertising campaign of its kind, the trade group has taken to newspaper and radio ads, the *WSJ* noted. The hospitals said the overdue reimbursement has hurt their credit ratings and forced them to delay raises and building projects, as a result.

In response, Gov. Paul LePage yesterday approved a plan to pay off $186 million of the Medicaid debt to the hospitals by issuing a voter-approved revenue bond secured by future liquor sales, the *Portland Press Herald* reported.

Steven Michaud, president of the Maine Hospital Association, supported the governor's promise and said paying hospitals will create jobs, promote medical infrastructure and access to care.

Other hospitals outside of Maine are still worried about delays in reimbursements, attributed to deficit agreements on Capitol Hill. According to Bruce Siegel, head of the National Association of Public Hospitals and Health Systems, other hospitals struggle with payments delays of up to several months, he told the *WSJ*.

Today's Top News

1. More beds linked to more hospitalizations

By Karen Cheung-Larivee

Amid nationwide efforts to cut down on healthcare waste, a new Michigan State University study finds more hospital beds lead to more utilization and likely higher costs, reinforcing support for certificate-of-need programs to regulate new hospital facilities.

Researchers looked at more than 1 million admissions at nearly 170 hospitals in 2010 in Michigan, a state that requires new hospitals to acquire certificate-of-need approval--the controversial regulation designed to avoid duplicative services in one area. The researchers found a "strong correlation" between bed availability and use.

"I have to believe that some of it is economic pressure from hospital administrators to fill up. If we're talking about a situation where there's a brand new multi-million dollar facility, I'm sure they don't want to have 20 percent of their hospital filled," Paul Delamater, lead author and a researcher in MSU's geography department told, *DOTmed News*.

Today's Top News

1. OIG: Fraud crackdown nets record-breaking recoveries

By Karen Cheung-Larivee

The Office of Inspector General is on its way to setting a record in recoveries of about $6.9 billion this fiscal year, according to its semiannual report submitted to Congress yesterday.

With "significant progress over the past year," according to Inspector General Daniel Levinson, OIG reported $923.8 million from audits and $6 billion from investigations, as well as $8.5 billion in estimated savings resulting from legislative, regulatory or administrative actions from OIG's recommendations.

OIG's crackdown has focused on reports of healthcare fraud, waste and abuse, most recently, at mental health centers, nursing homes and hospitals.

OIG said it excluded 3,131 individuals and entities from the federal health programs. It also reported 778 criminal actions against individual criminals or entities and 367 civil actions regarding false claims, civil monetary penalties and provider self-disclosure issues.

In Medicare, specifically, efforts by the federal program's Fraud Strike Force resulted in charges against 305 individuals or entities, 181 convictions and $151 million in investigative receivables.

Two audits earlier this year focused on cardiovascular and musculoskeletal surgeries, in which the evaluation and management services (E/M) payments did not reflect the services actually provided. The 2012 reports found that cardiovascular and musculoskeletal surgery claims in 2007 revealed $63 million in wasteful Medicare spending in E/Ms not provided. OIG attributed it to a faulty global physician fee schedule that doled out payments related E/M services before the day of surgery, the day of the surgery and the 90 days after the day of the surgery--regardless of whether the E/M services were actually provided, OIG found.

How to Stop Hospitals From Killing Us

Medical errors kill enough people to fill four jumbo jets a week. A surgeon with five simple ways to make health care safer.

By MARTY MAKARY

When there is a plane crash in the U.S., even a minor one, it makes headlines. There is a thorough federal investigation, and the tragedy often yields important lessons for the aviation industry. Pilots and airlines thus learn how to do their jobs more safely.

The world of American medicine is far deadlier: Medical mistakes kill enough people each week to fill four jumbo jets. But these mistakes go largely unnoticed by the world at large, and the medical community rarely learns from them. The same preventable mistakes are made over and over again, and patients are left in the dark about which hospitals have significantly better (or worse) safety records than their peers.

WSJ's Gary Rosen talks to author and surgeon Marty Makary about his ideas for making American hospitals more transparent about their safety records and more accountable for the quality of their care.

As doctors, we swear to do no harm. But on the job we soon absorb another unspoken rule: to overlook the mistakes of our colleagues. The problem is vast. U.S. surgeons operate on the wrong body part as often as 40 times a week. Roughly a quarter of all hospitalized patients will be harmed by a medical error of some kind. If medical errors were a disease, they would be the sixth leading cause of death in America—just behind accidents and ahead of Alzheimer's. The human toll aside, medical errors cost the U.S. health-care system tens of billions a year. Some 20% to 30% of all medications, tests and procedures are unnecessary, according to research done by medical specialists, surveying their own fields. What other industry misses the mark this often?

Avoiding Emergency Rooms

By JANE E. BRODY

FACEBOOK
TWITTER
GOOGLE+
SAVE
EMAIL
SHARE
PRINT

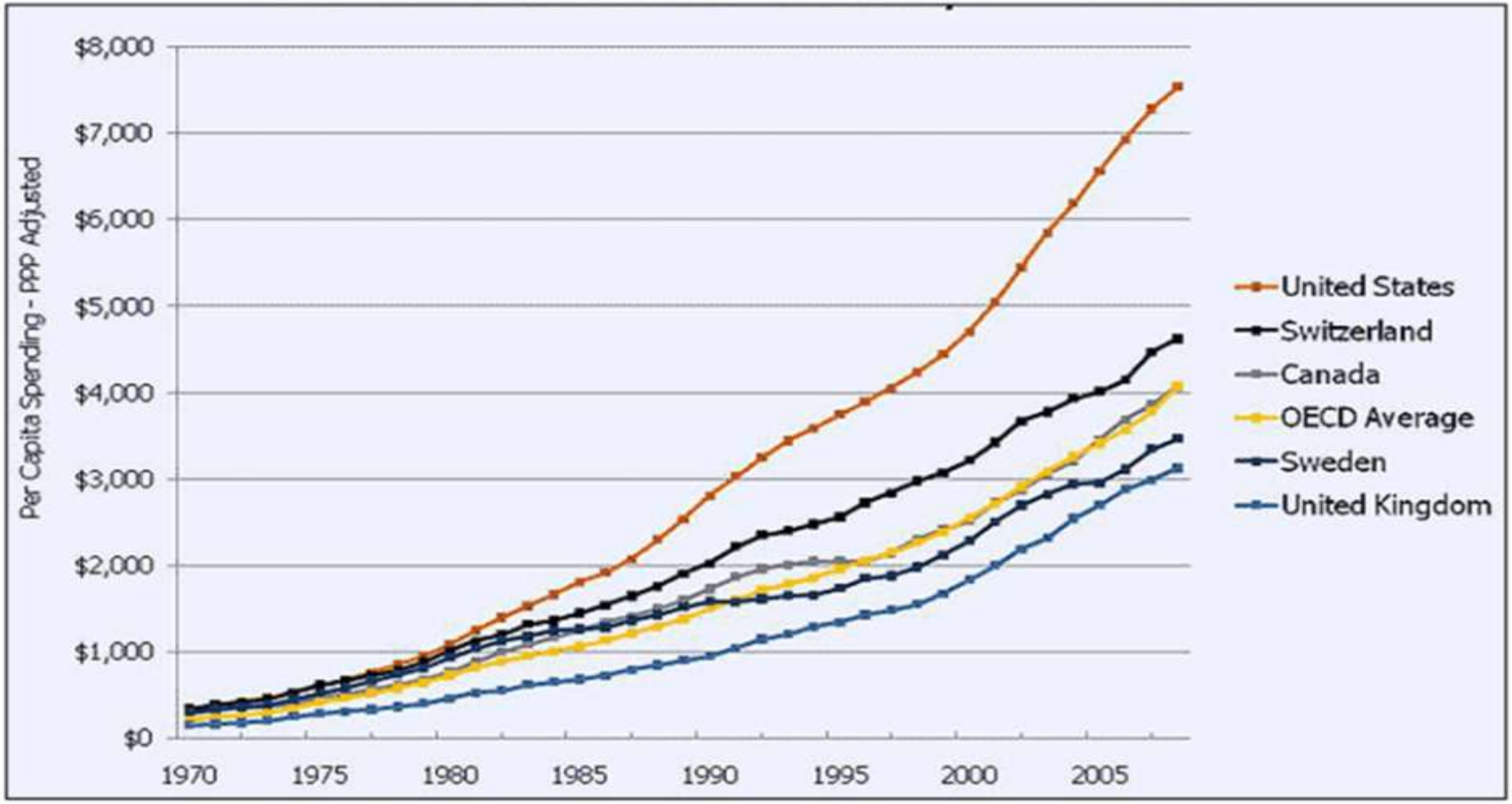
On a recent Sunday afternoon, a 75-year-old Philadelphia man with a fever of over 102 degrees was unable to reach his doctor. So his daughter took him to an emergency room, where the two sat for hours until he was examined by a physician who found no reason for the fever and decided to admit him overnight.

Ellen Weinstein

The man was given oxygen, a chest X-ray, a blood test and, finally, a urine test, which revealed a urinary tract infection. The problem was solved with a prescription for an antibiotic, but at a cost of thousands of dollars to Medicare.

PERSONAL HEALTH
Jane Brody on health and aging.

Growth in Total Health Expenditure Per Capita, U.S. and Selected Countries, 1970-2008



Source: Organisation for Economic Co-operation and Development (2010), "OECD Health Data", *OECD Health Statistics* (database). doi: 10.1787/data-00350-en (Accessed on 14 February 2011).
Notes: Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates. Numbers are PPP adjusted. Break in series: CAN(1995); SWE(1993, 2001); SWI(1995); UK (1997). Numbers are PPP adjusted. Estimates for Canada and Switzerland in 2008.

CALIFORNIA'S STATE PARKS
ARE EXPERIENCING BUDGET CUTS
AND WILL NO LONGER BE ABLE TO
SUPPLY PAPER TOWELS IN
THIS RESTROOM
Georgia-Pacific
SINGLEFOLD TOWELS

HealthLeaders Media

ED Woes Bad Today, Worse Tomorrow

***Joe Cantlupe, for HealthLeaders Media* , July 12, 2012**

One of the great things about an eight-year study of emergency departments published last month in the Annals of Emergency Medicine is that it challenges some preconceived notions about the problems in EDs these days.

The National Trends in Emergency Department Occupancy report covers from 2001 to 2008, and yes, we know how some of the story goes, with the power of hindsight over the past four years. During those study years, patient visits increased 60% faster than population growth, according to the report.

Ouch. Major overcrowding. Aggravating throughput issues.

Q | Please rate the following clinical areas on the difficulty of achieving results in improved efficiency and cost reduction.

	Very difficult 1	2	3	4	Not at all difficult 5
Emergency department	30%	35%	23%	10%	1%
Surgery	19%	29%	30%	19%	3%
Inpatient/med-surg/critical care	13%	37%	33%	14%	2%
Imaging	8%	20%	39%	28%	6%
Pharmacy	6%	25%	34%	28%	8%
Lab	4%	19%	42%	28%	6%
Outpatient/ambulatory	4%	21%	40%	28%	6%

Base = 250

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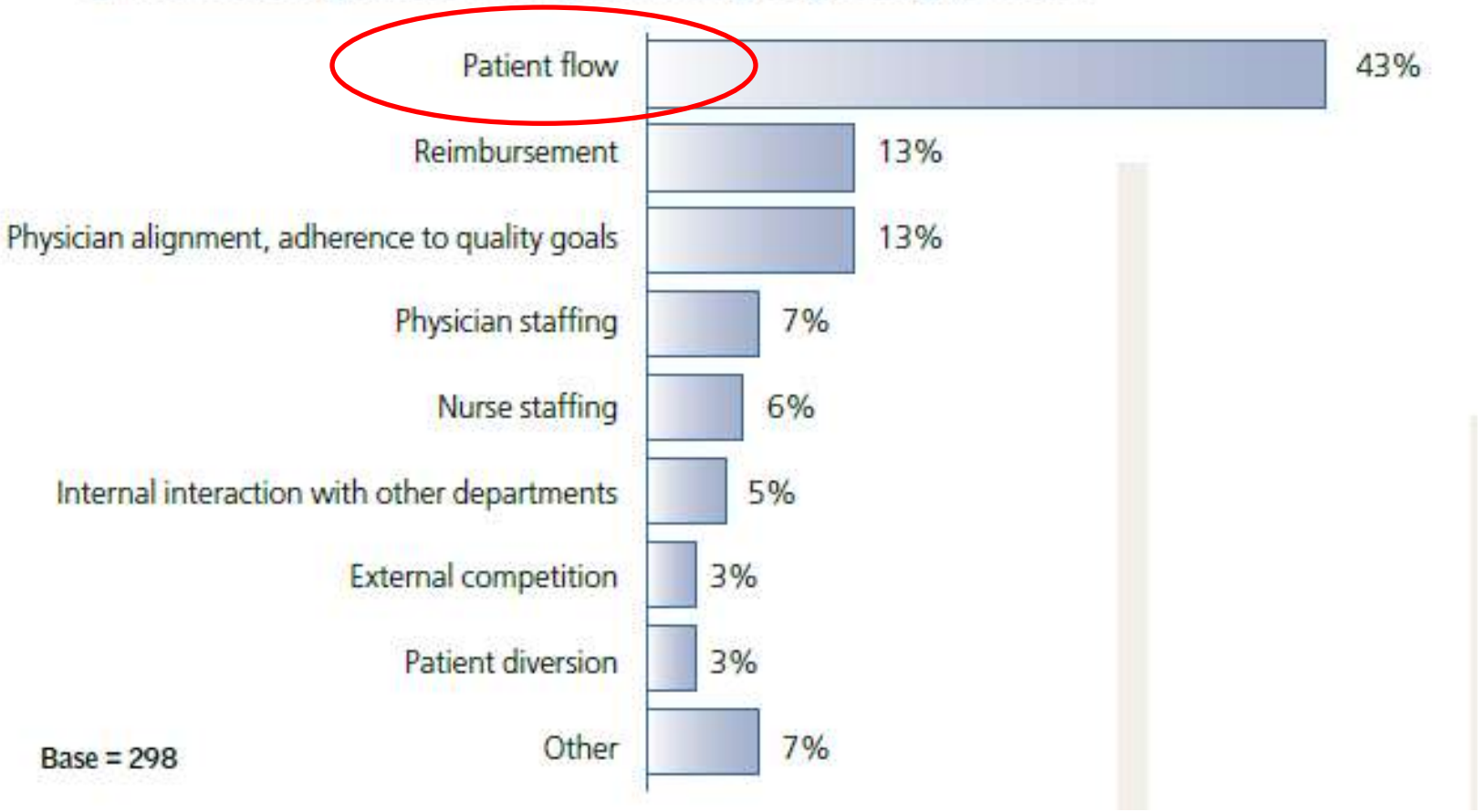
Q | What is the greatest strategic challenge regarding your ED?



Base = 298

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Best EDs Focus on Flow

Comment Email Print RSS News Widget ShareThis

Joe Cantlupe, for HealthLeaders Media, June 11, 2012

This article appears in the May 2012 issue of **HealthLeaders** *magazine.*

Among the greatest challenges in the emergency department is improving patient flow, and this comes with a sense of urgency amid deep concerns about patient safety due to overcrowding. In addition, the latest HealthLeaders Media Intelligence Report reveals that healthcare leaders expect worsening ED revenue margins and an increasing volume of uninsured patients.

CASE STUDY

Ochsner Health System

About

Ochsner Health System is southeast Louisiana's largest non-profit, academic, multi-specialty, healthcare delivery system with eight hospitals and over 38 health centers in Louisiana. Ochsner has been named the "consumer's choice for healthcare" in New Orleans for 15 consecutive years and is the only Louisiana hospital recognized by *U.S. News and World Report* as a "Best Hospital" across seven specialty categories. Ochsner employs more than 12,500 employees, over 860 physicians in over 90 medical specialties and subspecialties and conducts over 300 clinical research trials annually.

Ochsner Medical Center and Ochsner Medical Center-West Bank Campus were named among the top 5% in the nation for emergency medicine for the second consecutive year by *HealthGrades* and is the only ED in Louisiana to receive the *HealthGrades* Emergency Medicine Excellence Award in 2011 or a five-star rating for Emergency Medicine.

Their Story

In 2007, Ochsner Health System's Department of Emergency Medicine embarked on a major project that deeply impacted the culture of the department moving away from a traditional approach to ED care and into what Joseph S. Guarisco, MD, FAAEM, FACEP, chairman of the department of emergency medicine at Ochsner Medical Center and system chair of emergency services, describes as "a game-changing workflow process that dramatically alters how patients are managed in an emergency department." The workflow is called qTrack®.

qTrack was designed to address the need to increase capacity of the existing ED space without adding space. qTrack's workflow design increases traditional ED bed availability by implementing a workflow solution that moves patients into and through "Continuing Care" areas rather than having patients spend their entire emergency department visit in a traditional ED bed. But qTrack may not have come about if it hadn't been for Hurricane Katrina, as prior to this natural disaster, Ochsner ED had a 20 minute door-to-doctor wait time and a 99% patient satisfaction rating.

THE NEW YORKER

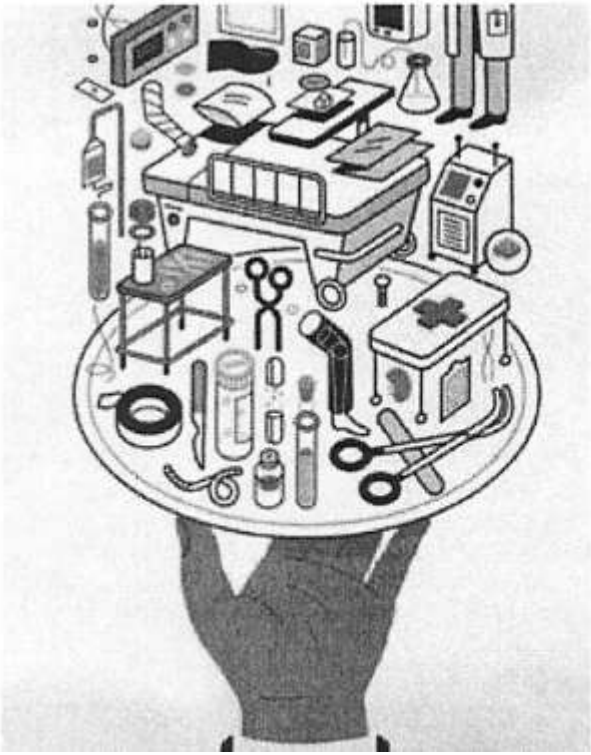
ANNALS OF HEALTH CARE

BIG MED

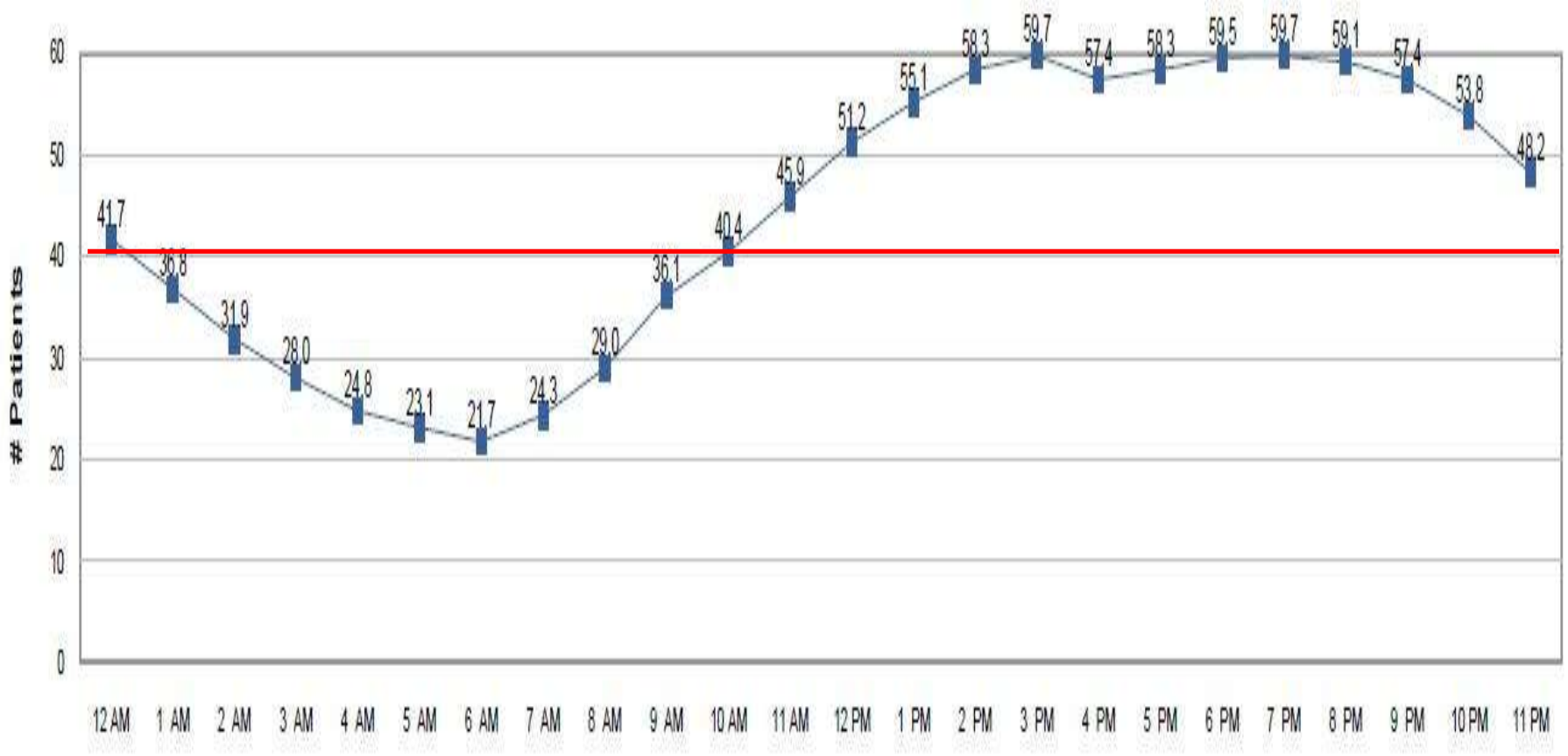
Restaurant chains have managed to combine quality control, cost control, and innovation. Can health care?

BY ATUL GAWANDE

AUGUST 13, 2012

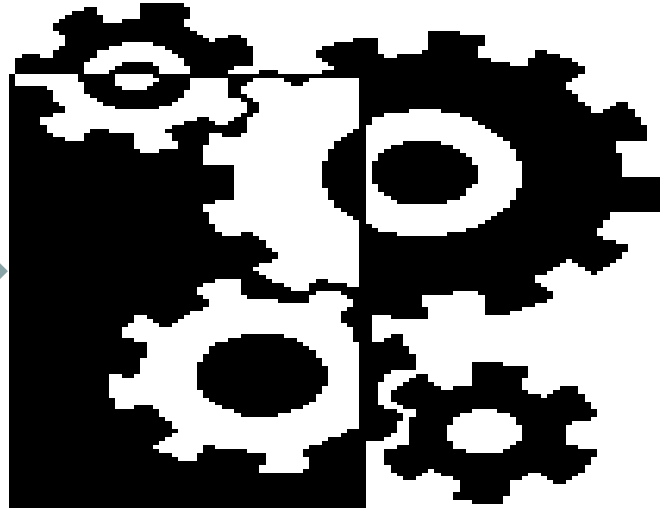


It was Saturday night, and I was at the local Cheesecake Factory with my two teen-age daughters and three of their friends. You may know the chain: a hundred and sixty restaurants with a catalogue-like menu that, when I did a count, listed three hundred and eight dinner items (including the forty-nine on the "Skinnylicious" menu), plus a hundred and twenty-four choices of beverage. It's a linen-napkin-and-tablecloth sort of place, but with something for everyone. There's wine and wasabi-crusted ahi tuna, but there's also buffalo wings and Bud Light. The kids ordered mostly comfort food—



Census by Hour 2012

INPUT



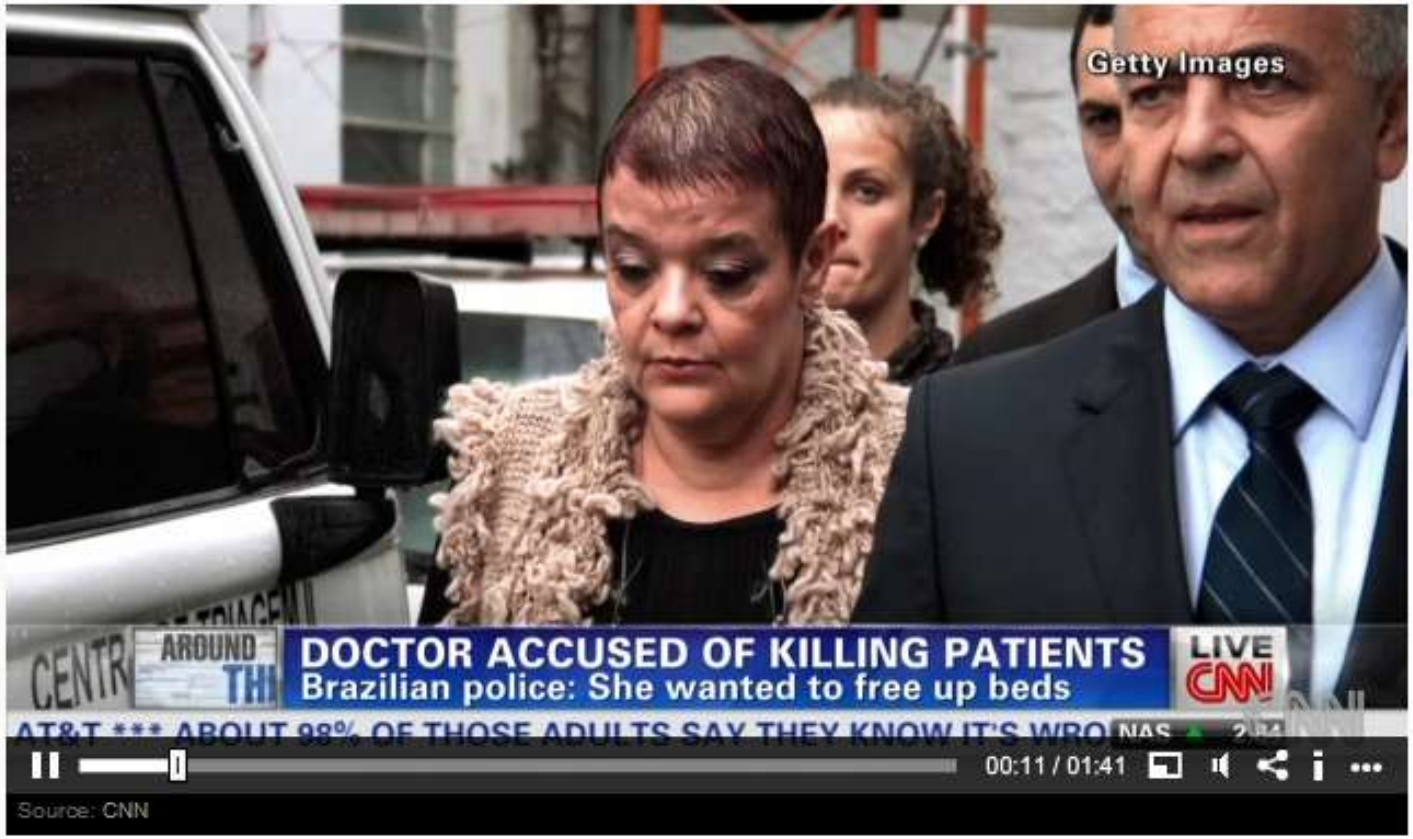
OUTPUT

Emergency Department

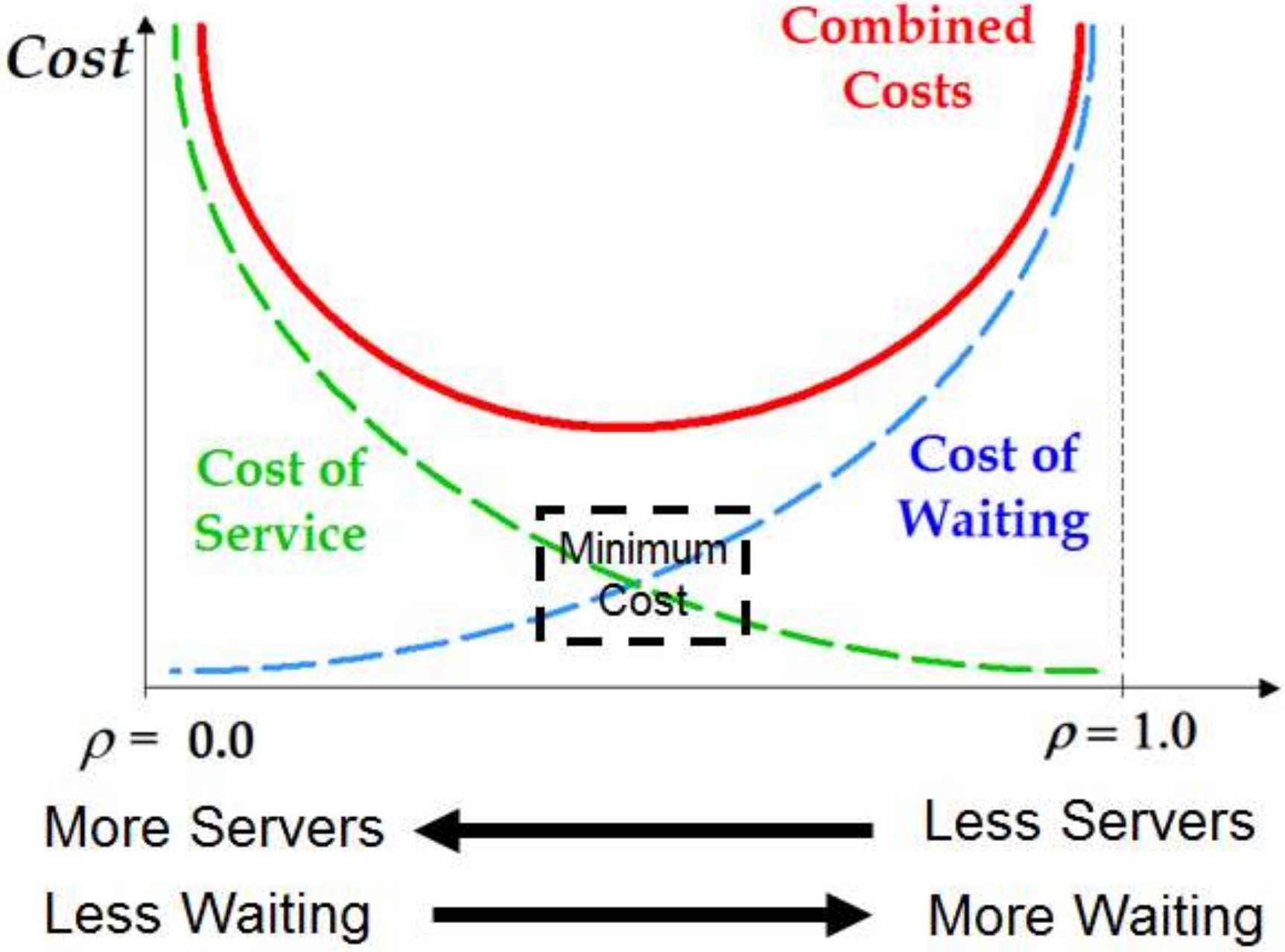
Brazilian doctor killed 7 patients to free up hospital beds, police say

By **Marilia Brocchetto**, CNN

updated 1:37 PM EDT, Thu March 28, 2013



Source: CNN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Combined Costs
Cost of Service
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Minimum Cost
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More Servers
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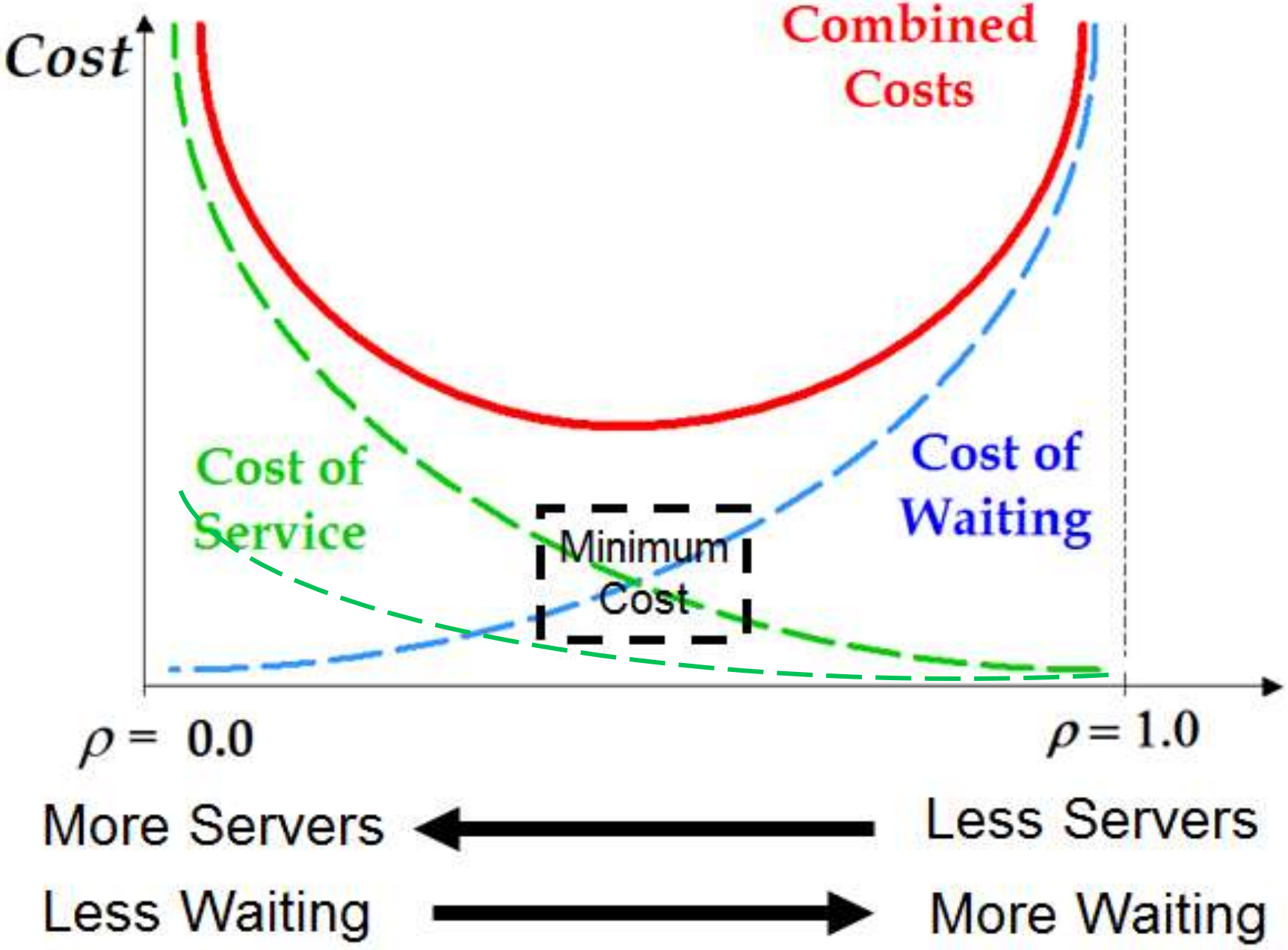
Less Waiting
More Waiting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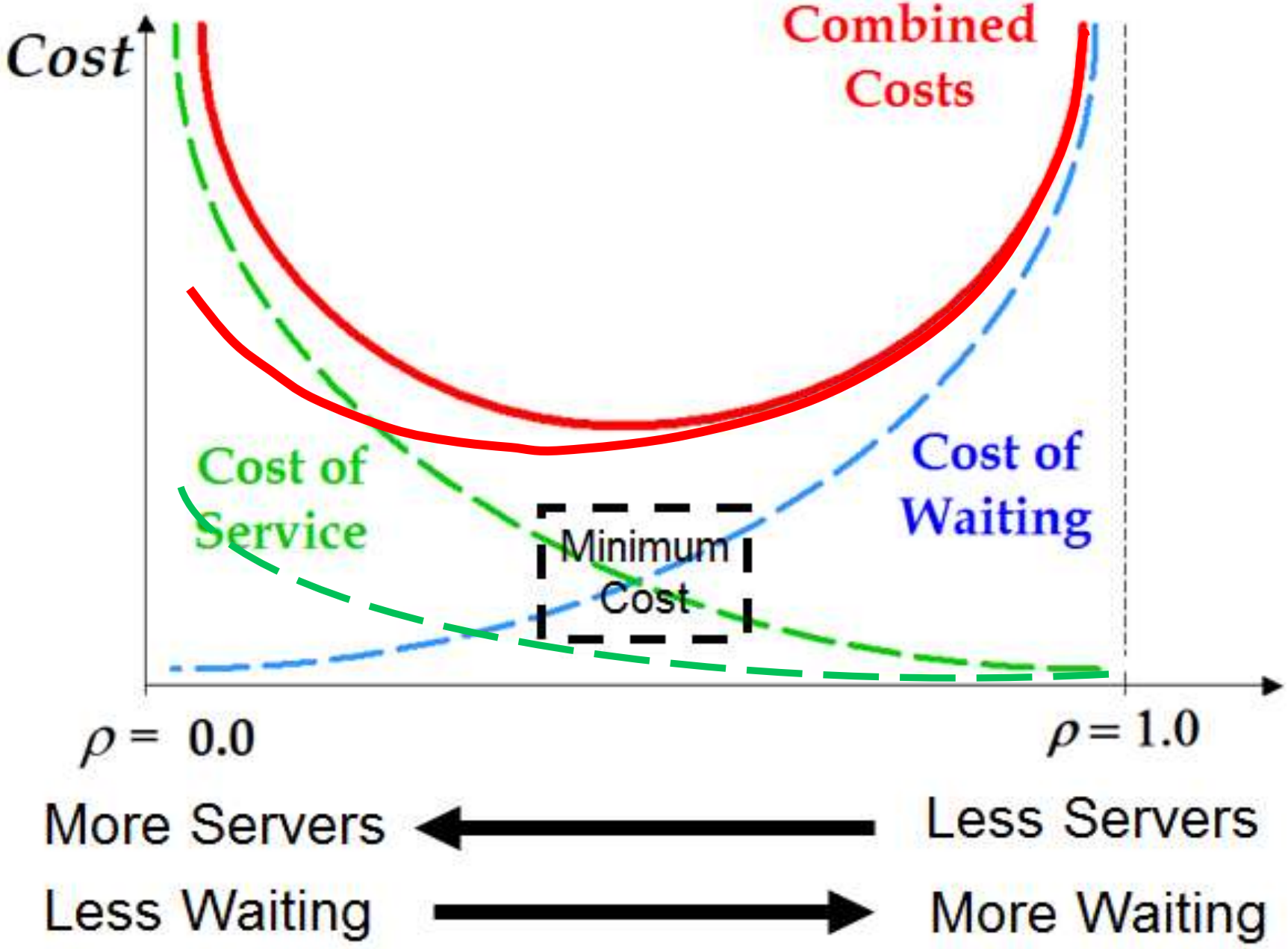
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New Orleans CityBusiness

CityBusiness names 2007 Innovator of the Year winners

Posted:

NEW ORLEANS - SDT Waste & Debris Services received the CityBusiness' 2007 Innovator of the Year Gold Award today during a lunch program at the Sheraton New Orleans hotel.

The sixth annual program honors New Orleans-area businesses for innovative products and services. The 2007 program had 59 honorees.

New Orleans-based SDT is owned by Sidney Torres, a Chalmette native and real estate developer who started a trash-removal business in the wake of Hurricane Katrina. The company, which is contracted by the city of New Orleans to clean downtown, has become a household name in less than two years. Many say the French Quarter has never looked cleaner.

Torres uses state-of-the-art trash-removal and street-cleaning equipment and products, including a biodegradable disinfectant he commissioned a chemist in Chicago to make.

Drivesoft LLC received the Silver Award. The Metairie company's innovation is Drivesoft Alive Automotive Linked-in Vehicle Entertainment, a touchscreen in-car computer that features MP3 capabilities, a DVD player, TV tuner, navigation tools, e-mail and Internet access and mobile office functions, including the ability to access Excel and Word files. The product, developed by CEO Jack Cali, has been featured on MTV's "Pimp My Ride."

Innovator

qTrack — Ochsner Health System

Key innovation: Decreasing wait for emergency room patients by streamlining processing
Where they're based: New Orleans
Top executive: Dr. Joseph Guarisco, system chief of emergency services
Year introduced: March

Emergency rooms in the New Orleans area are treating more people with longer wait times to see a doctor.

Ochsner Health System addressed the problem with a quicker approach to waiting in the emergency room.

qTrack, a system using engineering to improve workflow processes, was Dr. Joseph Guarisco's concept.

"We applied industrial engineering to health care. It is the same as commercial businesses where engineering methods are used to speed up processes and make things efficient as possible," he said.

Guarisco, an emergency room physician at Ochsner who also has an engineering background, used engineering methods to shorten the time it takes to see a doctor.

With qTrack, the door-to-doctor wait time has been reduced from 75 minutes to 30 minutes, and Ochsner, which sees about 175 patients daily, has decreased from 6 percent to 1 percent the number of patients who leave before being seen.

Changes included using an area just outside the waiting room to create multiple lanes staffed with nurses and physicians so a patient could be seen immediately in most instances.

"We streamlined the registration process and essentially eliminated the triage process ... to eliminate batching, bottlenecks and any queuing. To accomplish this, we simply had to shift gears and end warnings our intake area."

Guarisco relates the process to what Jiffy Lube and Whole Foods have, where customers queue up in a single line to be distributed into multiple lanes.

"This is a new solution to a contemporary New Orleans problem. In post-Katrina New Orleans, people are waiting for everything including health care. Patients should not be waiting for health care because it is a safety issue."

While the qTrack system is new to emergency rooms in New Orleans, hospitals in California and Arizona have been using similar versions for a while.

The difference, Guarisco said, is these programs use a triage physician in the emergency room to see patients on arrival, which still causes bottlenecks.

Guarisco said his team started planning in January.

Guarisco said patients have noticed the difference.

"Our patient satisfaction in the third quarter of 2007 has reached an all time high, so patients are responding to a difference," Guarisco said. "The key difference is the timeliness of their care. And in emergency medicine, time-lines-of-care is critical to the patients' perception of their experience."

— Jennifer Auf

Drs. Armando Rivas, left, and Joseph Guarisco created Ochsner Health System's qTrack system, which has decreased emergency room wait time from 75 minutes to 30.

OR in the ER

Overcrowding combined with understaffing has created an emergency care crisis. How operations research can help solve the problem.

By David Eitel and Douglas A. Samuelson

Emergency medicine in the United States has reached a crisis state. Operations research has demonstrated a critical capability to address the problems, but most emergency care physicians and managers are unaware of this capability. As a few recent engagements have shown, O.R. analysts could contribute greatly to addressing this crisis if they change their communications approach in order to be more effective in supporting health care providers.

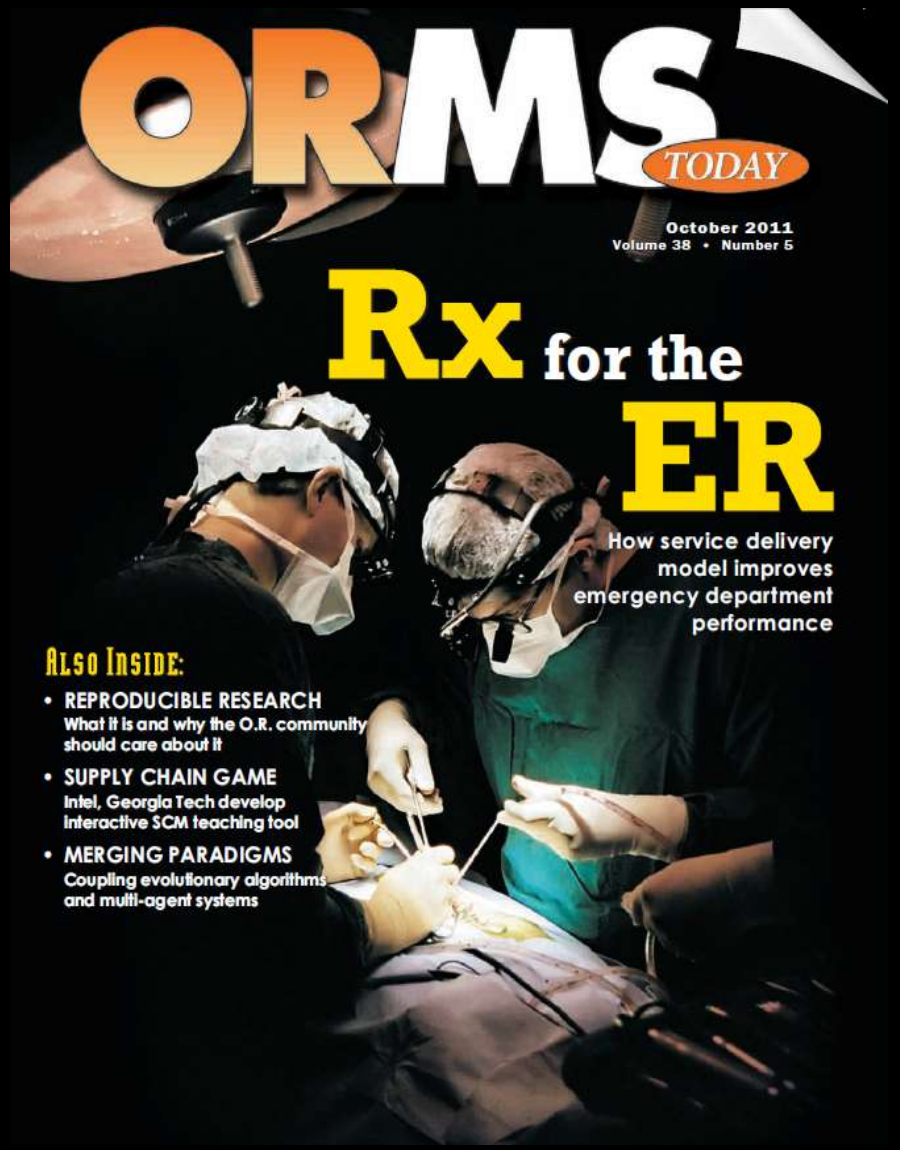
No room at the ER: At many emergency departments, patients are "boarded" up to 24 hours on hallway gurneys.

In late 2006, a number of the first author's colleagues reported that emergency department (ED) conditions abruptly worsened all across the country. Apparently this was just due to congestion hitting a certain level, without a precipitating event, much like some highways at rush hour. Many patients who were "admitted" to hospitals remained in the ED up to 24 hours (and longer), lying on gurneys in ED hallways waiting for a hospital bed to become available. In Dr. Eitel's own prototypical 40-bed ED, 20 to 35 patients (or more) were held or "boarded" – most days of the week, most hours of the day – until a hospital bed became available. (Note: "Emergency Department" and "Emergency Room" mean pretty much the same thing. "Department" has gained more widespread use lately since many EDs now comprise multiple rooms.)

The first author of this article, an experienced emergency physician who is also an MBA and a long-time member of INFORMS and its Health Applications Section, presented this situation at the annual INFORMS meeting in 2007, along with Murray Cote and Keith Willoughby. The presentation was intended to be a call for help. In the three and a half years since, the situation has gotten worse, and the O.R. profession's help is needed more than ever.

The 2007 presentation featured photos that showed signs hanging from the ceiling in Dr. Eitel's ED. These signs were a recent addition to the ED, and they were simply numbers. The numbers were part of a location-coding scheme that helped the ED keep track of which patients were "temporarily" stashed where – in the hallways on gurneys – because of the overcrowding.

The hospital had no plan to send extra resources to the ED to help care for these patients, who were often very ill, admitted for further treatment but then "boarded" in the ED. The ED caregivers were told that there simply were not resources available elsewhere in the hospital to send to the ED. This meant that ED care providers were required to deliver care to admitted but ED-boarded patients while simultaneously treating other patients who continued to arrive via walk-in triage and ambulance in ever-increasing numbers – an impossible situation. Compounding the problem, the ED was not physically set up to deliver the services and procedures many of the



Case Study

SOLUTIONS IN PRACTICE

Budgeting beds helps hospital

Hurricane Katrina brought deadly and destructive weather into the city of New Orleans in August 2005. The onslaught of Hurricane Rita several weeks later delivered a second punch to the city's infrastructure.

Joe Guarisco, M.D., is chief of emergency services for Ochsner Health System in Louisiana, one of the few health care operators that was left functioning in New Orleans immediately following the hurricanes.

Before Katrina hit, the hospital system tallied 40,000 emergency department visits per year. Ochsner Medical Center had patient door-to-doctor times averaging under 25 minutes, and only 0.5 percent of visitors left without being seen (LWBS) by a physician. Patient satisfaction rated in the 99th percentile.

The leap in patient volume two months after Katrina was unprecedented, creating backlog and long wait times for visitors in dire need of care.

By February 2007 Ochsner's emergency department received 75,000 visitors per year, a number that continues to climb today. LWBS rates leaped to more than 6.5 percent, and door-to-doctor times expanded to an average of 77 minutes. The hospital system's patient satisfaction ranking dropped to the 25th percentile.

The unforeseen change in patient volume proved too much for Ochsner's traditional process model, which had placed emphasis on a steady workflow for doctors moving patients through triage as well as fast tracking patients who had less severe medical cases.

Process map to better care

At the patient influx was reaching its peak in February, Guarisco visited IIE's Society for Health Systems (SHS) Conference 2007 being held in New Orleans. Stopping in on a session focused on throughput and emergency medicine, Guarisco listened to a discussion about adjusting fast track models to serve patients better. Saddled with the growing crisis at his hospital, Guarisco raised his hand and told the crowd he was ready to throw the fast track out completely.

"Several heads turned when I said that," he said. Among those struck by Guarisco's idea were Steve Escamilla, management engineer with California Emergency Physicians Medical Group, and Todd Schneider, improvement adviser and management engineer for Tallahassee Memorial HealthCare. The two experts, along with advisers from Banner Health Arizona who conducted the SHS session, visited Ochsner hospitals and began working with Guarisco to develop a new system that brings patient satisfaction and wait times back to pre-Katrina levels.

Life's Work: Philippe Starck

An Interview with Philippe Starck by Alison Beard

Comments (0)

How do you persuade reluctant clients to embrace your more-radical ideas?
I'm very good at explaining. I don't work like a diva. I don't say, "Oh my God, that must be pink," and refuse to discuss it. I arrive with something that is always well-thought-out, very seriously done. I am cuckoo, yes. I am the king of intuition. But I am also a serious guy. I explain in a clear way. And then, even if it's something that looks completely different than expected, something completely against mainstream thinking, clients understand. I explain that it might look strange but why, given the two to five years it will take for development, it will for so many reasons be exactly the right thing to do. If there is no surprise, the project doesn't deserve to exist. But I'm very, very precise in describing the timing and the parameters. And then the clients agree, always, 100%.

Shared Purpose

- Clinical leadership
- Culture of team
- Data and performance transparency
- Provider compensation plan that creates risk
- Fear of public reporting and social media
- Burning platform

NEWS & PERSPECTIVE

Two Years Later, Every Day is Monday in New Orleans Emergency Departments

City struggles to provide care as populace returns to devastated southern Louisiana

by MARYN McKENNA

Special Contributor to Annals News & Perspective

NEW ORLEANS — It was a few minutes after noon on a hot day in September. The sun was beating down on the concrete that surrounds Tulane University's emergency department (ED), and whenever the double doors slid open, the steamy heat spilled through.

Paramedics surged in with it, shoving a gurney or a wheelchair or guiding someone by the elbow. The patients lined up along one side of the narrow hallway: 3 car accident passengers in cervical collars, one elderly man on oxygen, one suicidal ideation, one possible pneumonia, one teenager found down and hypoxic. The 16 beds were full. There were 9 patients in the waiting room. The radio crackled. Ambulance heading in with a possible myocardial infarction.

Dr. James Moises ran his eyes down the queue of gurneys and along the stack of clipboards waiting for his attention.

"Well," he drawled, "this looks like a Monday for sure."

It was a Monday, as it happened — but Moises' department had been just as busy the day before, and it would be just as busy the day after. Two years after Hurricane Katrina and the floods that followed tore the heart out of New Orleans' health care system, it is always a Monday in the city's EDs.

Charity Hospital, the commanding Art Deco tower that provided primary and specialty care to generations of New Orleanians, was swamped by the storm and has never reopened. Charity was the tattooed jewel of a state-wide public hospital system and the only Level 1 trauma center on the Gulf Coast from Galveston to far east as Savannah. It occupied patients from 4 counties, major traumas from 4 others and referrals from around Louisiana. It routinely saw 450,000 clinic visits and more than 110,000 emergencies a year.

RIPPLES AND WAVES

The ripple effect of its closing has rocked the city's remaining EDs — and on some days, permanent say, it feels as though they are sinking.

"We have patients who will wait 6 to 8 hours and leave without being seen," said Moises, who once worked at "Big Charity" and is now medical director of Tulane's ED. "We're 2 years out from the storm, and we are worse off than we were a year ago, because more people are coming back to town, and more doctors are leaving."

The population of New Orleans still has not returned to pre-storm levels. Depending on which survey methodology you accept, it stands at 60 to 70% of the 455,000 the city claimed in the 2000 census.[1,2]

From an ED standpoint, a smaller population would seem to be good news. But "New Orleans," technically, is only Orleans Parish, as counties are known here. Jefferson Parish to the west is back to pre-storm levels, and the regional population, from north of Lake Pontchartrain down the leg of Louisiana's boot, has reached at least 90%. That population has some significant differences from the before-storm residents. With the exodus of families and a vast influx of construction workers, it is more male than before, and more concentrated in young adults and middle-aged, with fewer children and elderly. There are more Latinos, in a city that was always black and white, and more undocumented workers.[3]

NO SPACE, NO ACCESS, NO CARE

And for a variety of reasons — no Charity, no clinics, no significant public transit system to carry patients to more remote locations — there is much less access to care.

"More than a third of those living in Greater New Orleans (104K) have seen their access to health care deteriorate since the storm," the nonprofit Henry J. Kaiser Family Foundation reported last May. "One in 5 (21%) rated the way their health needs were being met as worse than before Katrina, and nearly as many (18%) said it was now harder for them to get to their regular place of care."[4]

That access problem is in part a space problem. Before the storm, Charity and University Hospitals — the 2 teaching sites of Louisiana State University School of Medicine, collectively known as the

The Waits That Matter

John Maa, M.D.

She was 69 years old and, with the exception of mild heart disease, was in excellent health. One day, around mid-morning, she noticed that her heartbeat was irregular and she felt slightly short of breath. Using her home blood-pressure cuff, she found that her pulse was 130. Since her blood pressure was stable, she decided to forgo a call to 911 and instead asked her husband to drive her to the local hospital — one of the most highly regarded academic medical centers on the West Coast.

N ENGL J MED 364;24 NEJM.ORG JUNE 16, 2011

Those of us who have dedicated our careers to health care must confront the fact that our inability (or, more likely, unwillingness) to reduce the waits and delays that bedevil emergency care is harming and even killing our patients.

The solution will come too late to save my mother. But it would help me honor her memory.

The New York Times

FROM THE DIRECTORS OF
LITTLE MISS SUNSHINE

July 28, 2012

The Short Life and Lonely Death of Sabrina Seelig

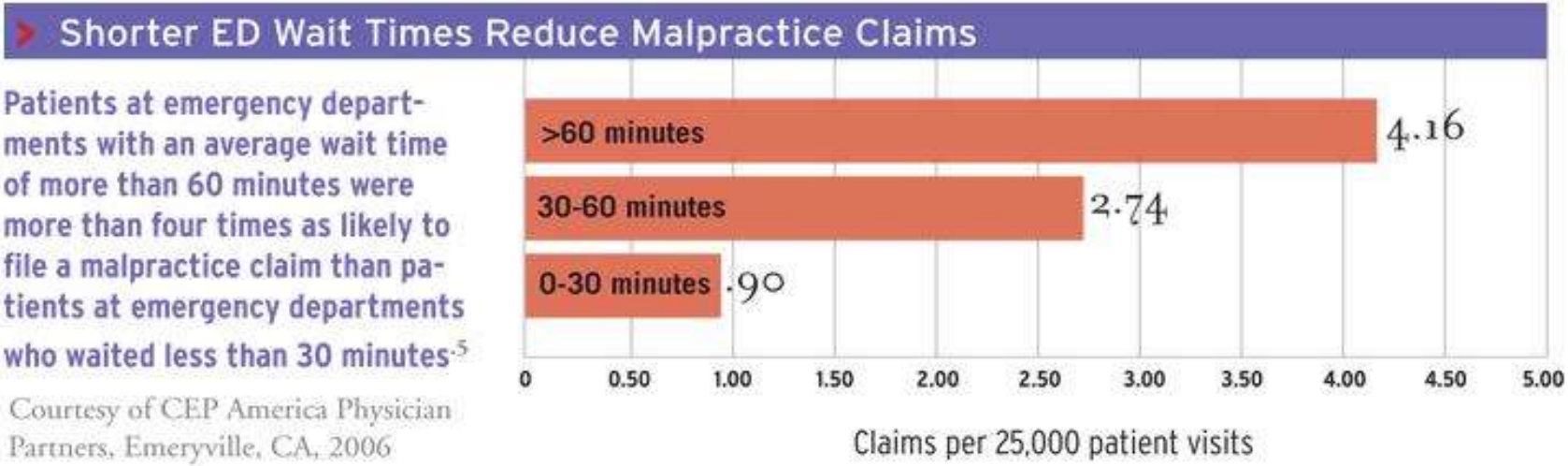
By ANEMONA HARTOCOLLIS

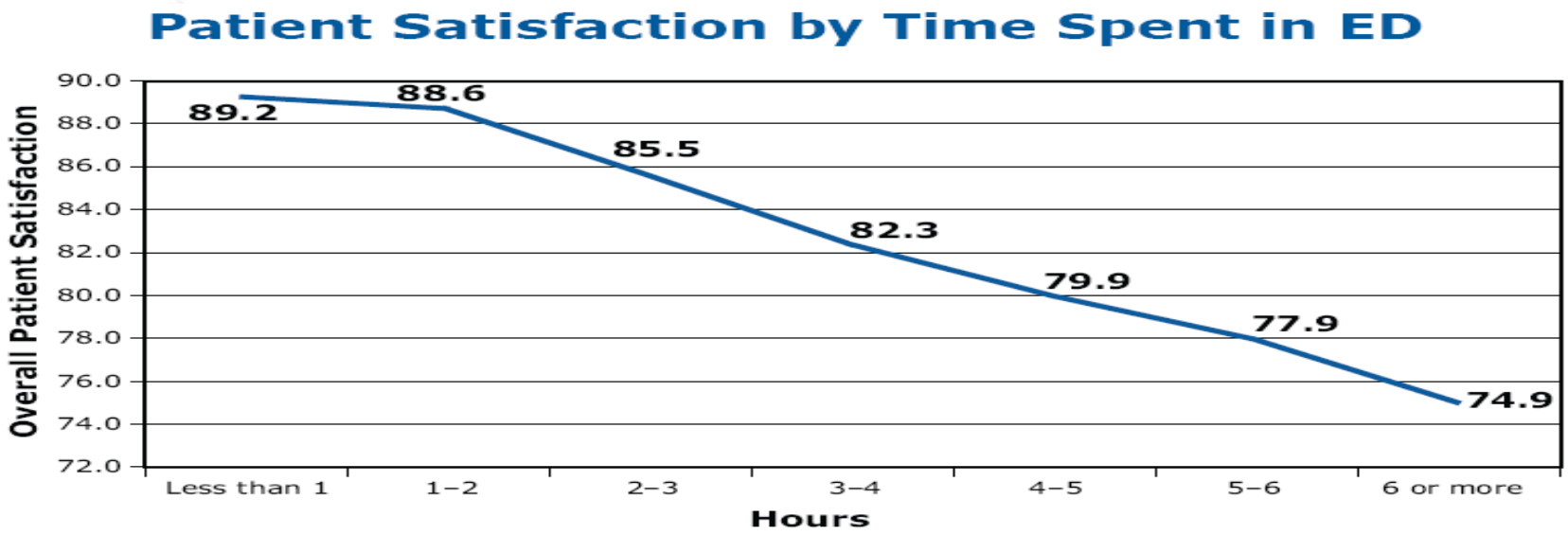
SABRINA SEELIG seemed too young to die.

For Mr. Seelig and Ms. Gibson, the letter serves as evidence that their daughter's death did matter to someone, and made some difference.

Asked what lesson might be taught by Sabrina's death, Ms. Gibson said there was one. "No one should go to a hospital without someone with you — no one," she said. "Don't go unless somebody at least knows you're there."

The Cost of Waiting

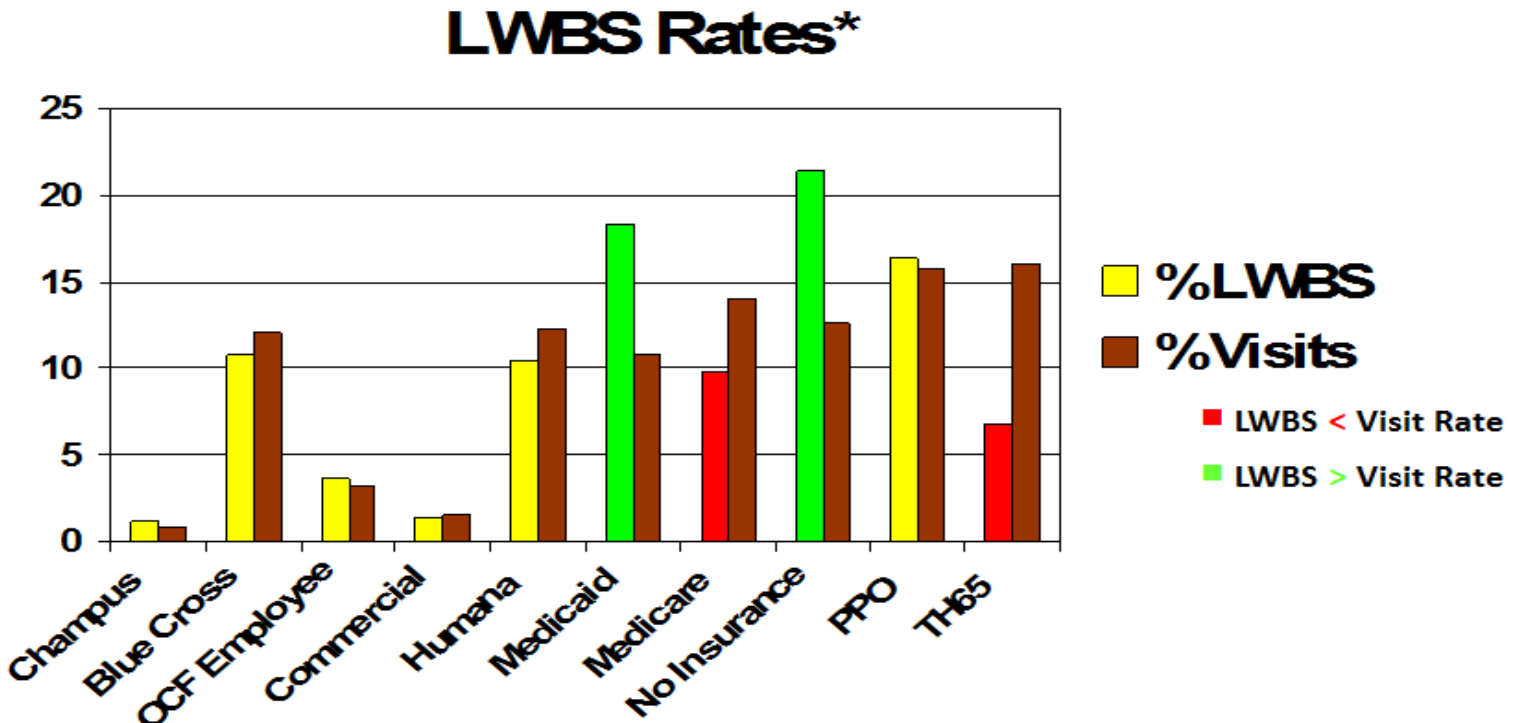




Represents the experiences of 1,524,726 patients treated at 1,656 EDs nationwide between January 1 and December 31, 2007

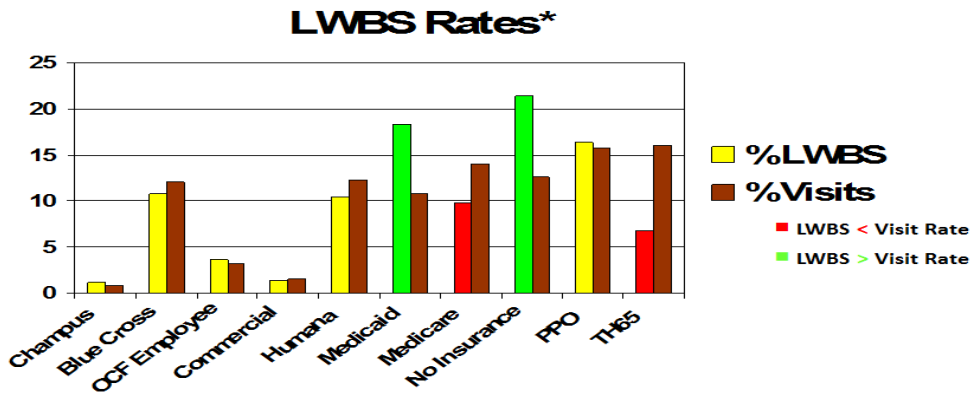
The Cost of Waiting

- 60,000 ED Visits x 1 Hr LOS reduction = 60,000 hrs bed capacity
- If your LOS is 2 Hours/Visit = 30,000 potential new visits
- If your LOS is 3 Hours/Visit = 20,000 potential new visits
- 20,000 new visits X $100/Visit = $2,000,000 pro fees
- 20,000 new visits x $400/Visit/Facility = $ 8,000,000 facility fees



The Cost of Waiting

- Net revenue (actual LWBS payor mix)
  - Outpatient facility net revenue @ **$300/visit** discharge (90% of visits)
  - Inpatient facility net revenue @ **$5,000/visit** admission (10% of visits)
  - Professional provider net revenue @ **$125/visit** all (100% of visits)
- 1% LWBS @ 50,000 visits = **500 visits**
- Lost opportunity net dollars for every 500 visits LWBS
  - **$135,000** facility outpatient revenue (450 pts x $300)
  - **$250,000** facility inpatient revenue (50 pts x $5,000)
  - **$62,500** professional revenue (500 pts x $125)
- Cost of 1% LWBS at 50,000 volume = **$447,500**



The Cost of Doing Nothing

New York City Ties Doctors' Income to Quality of Care

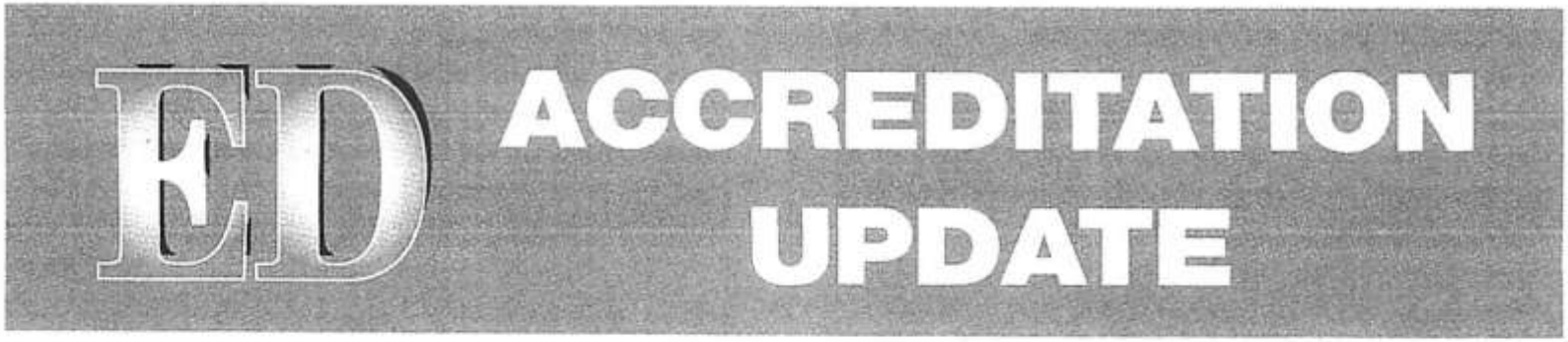
Michael Appleton for The New York Times

Alan Aviles, president of the corporation that runs New York City's public hospitals, said the plan would not tie payment to volume.

By ANEMONA HARTOCOLLIS
Published: January 11, 2013

The public hospital system has come up with 13 performance indicators. Among them are how well patients say their doctors communicate with them, how many patients with heart failure and pneumonia are readmitted within 30 days, how quickly emergency room patients go from triage to beds, whether doctors get to the operating room on time and how quickly patients are discharged.

The Cost of Doing Nothing



Covering Compliance with The Joint Commission Standards

Standards governing ED patient flow, patient boarding are strengthened

Ultimate responsibility for action is pushed up the chain of command

As demand for emergency care continues its upward climb, The Joint Commission is taking steps to strengthen its accreditation standards pertaining to patient throughput, and it is putting hospital leaders on notice that they will be held accountable for patient flow challenges that occur in the ED.

high. Managers had to be aware of what was going on, but now The Joint Commission has really pushed it up the chain of command to hospital leadership, and I think that is very important because they are the ones with the power to make things happen."

Further, The Joint Commission has expanded the

The Cost of Doing Nothing

OP-20	Time from arrival to provider contact
OP-16	Troponin results received within 60 minutes
OP-18	Time from arrival to departure (discharged patients)
OP-22	LWBS
OP-12	Wireless data transmission
IP-1*	Time from arrival to departure (admitted patients)
IP-2*	Time from admit decision to departure (admitted patients)

The Cost of Doing Nothing

It’s Not Just About the Money!

- Quality outcomes
- Patient safety
- Humanism (it’s the right thing to do)

DO THE
RIGHT
THING

The Problem

- Have we priced ourselves out of good service
- Can we be all 3
  - Faster
  - Better
  - Less costly (cheaper)

THE MAGAZINE
April 2013

Three Rules for Making a Company Truly Great

by Michael E. Raynor and Mumtaz Ahmed

1. Better Before Cheaper

Every company faces a choice: It can compete mainly by offering superior nonprice benefits such as a great brand, an exciting style, or excellent functionality, durability, or convenience; or it can meet some minimal acceptable standard along these dimensions and try to attract customers with lower prices. Miracle Workers overwhelmingly adopt the former position. Average Joes typically compete on price. Long Runners show no clear tendency one way or the other. (See the exhibit "Following the Rules

2. Revenue Before Cost

Companies must not only create value but also capture it in the form of profits. By an overwhelming margin, exceptional companies garner superior profits by achieving higher revenue than their rivals, through either higher prices or greater volume. Very rarely is cost leadership a driver of superior profitability.

3. There Are No Other Rules

This rule underscores the uncomfortable (or liberating) truth that in the pursuit of exceptional profitability, everything but the first two rules should be on the table. When considering all the other determinants of company performance—operational excellence, talent development, leadership style, corporate culture, reward systems, you name it—we saw wide variation among companies of all performance types. There's no doubt that these and other factors matter to corporate performance—how could they not?—but we couldn't find consistent patterns of *how* they mattered.

The Goal

- **Faster** (door to doc)
- **Better** (safer care and higher patient satisfaction)
- **Cheaper** (reduced cost per visit)

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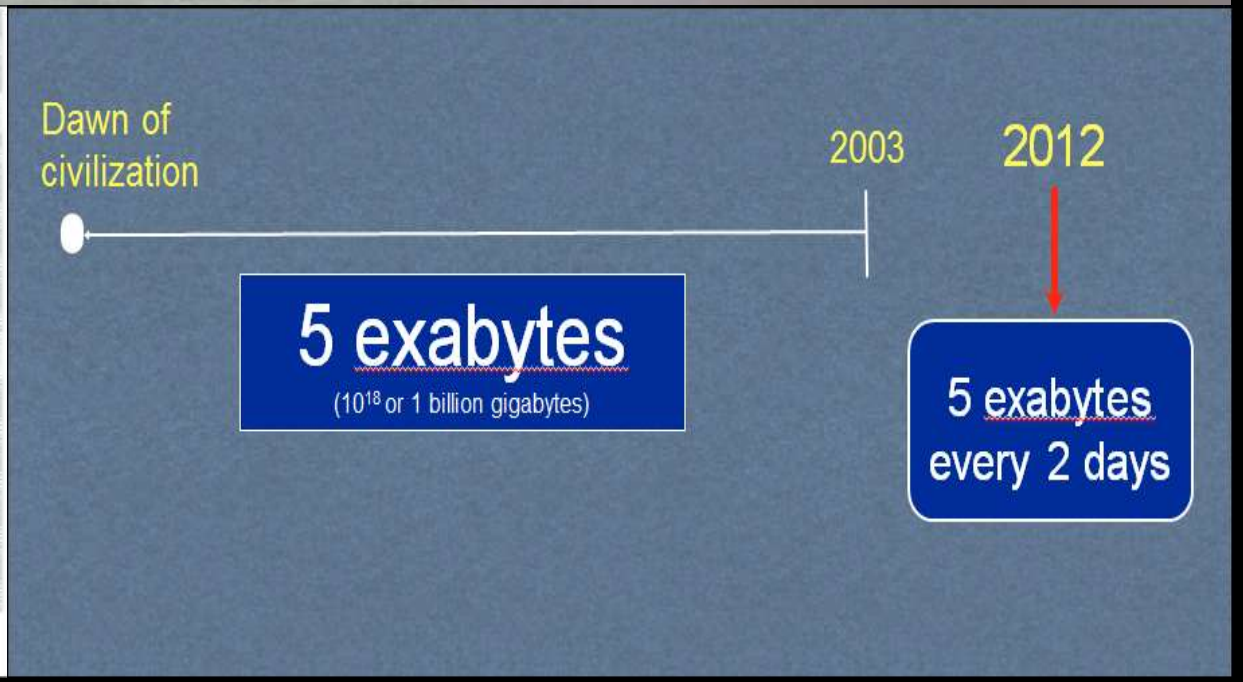
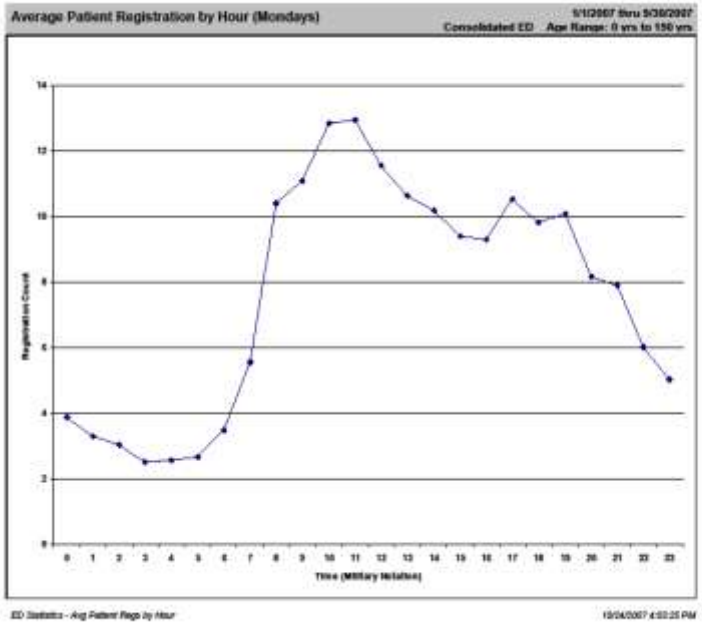
DOCUMENT CONVERSION

The Economist
Obama the warrior
Misgoverning Argentina
The economic shift from West to East
Genetically modified crops blossom
The right to eat cats and dogs
The data deluge
AND HOW TO HANDLE IT: A 14-PAGE SPECIAL REPORT

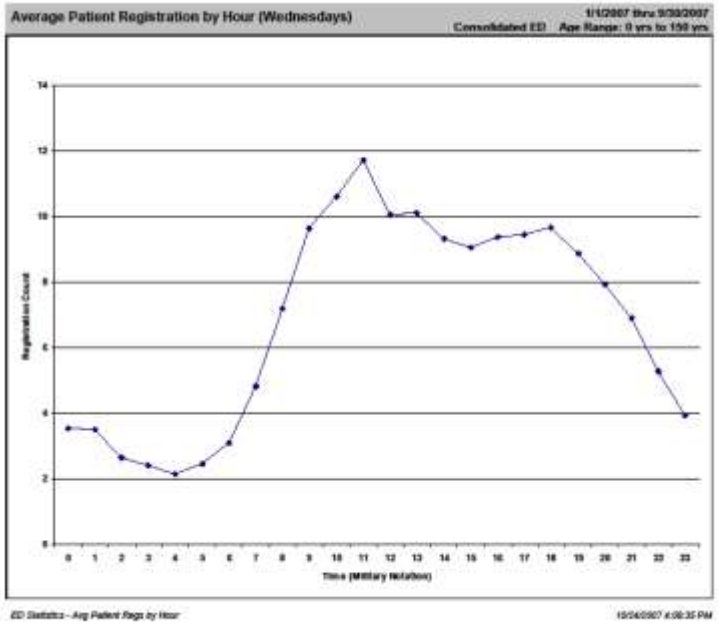

Dawn of civilization
2003
2012
5 exabytes
(10^18 or 1 billion gigabytes)
5 exabytes every 2 days

Patient Arrivals by Hour

Monday

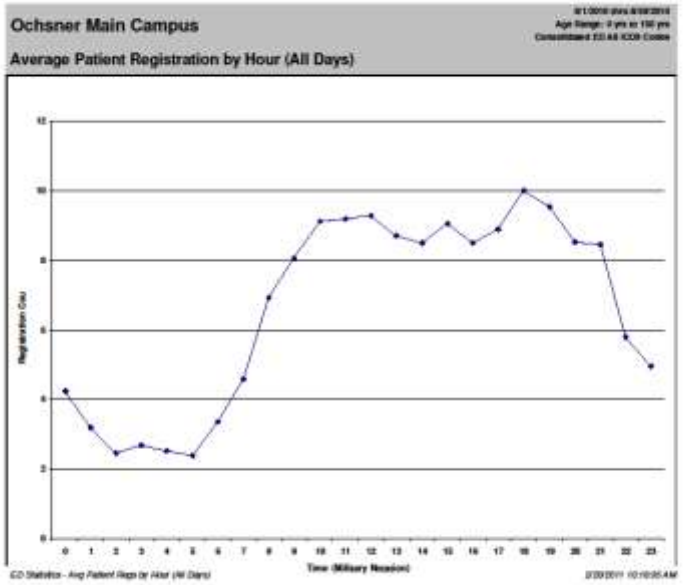


Thursday

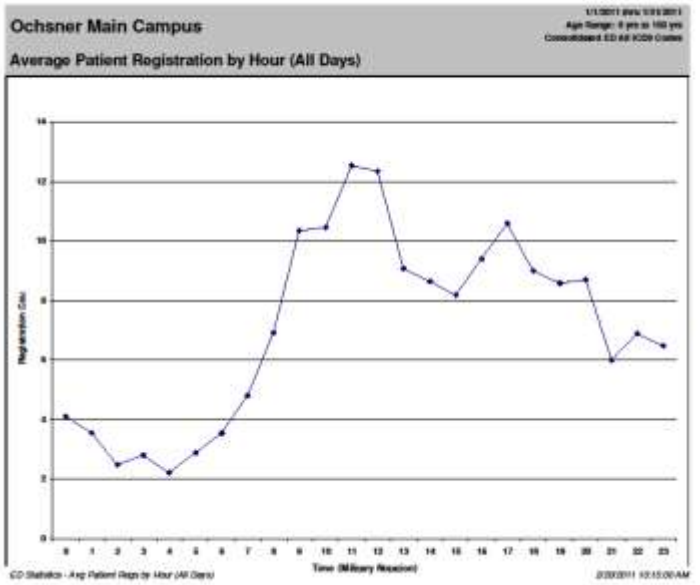


Patient Arrivals by Hour

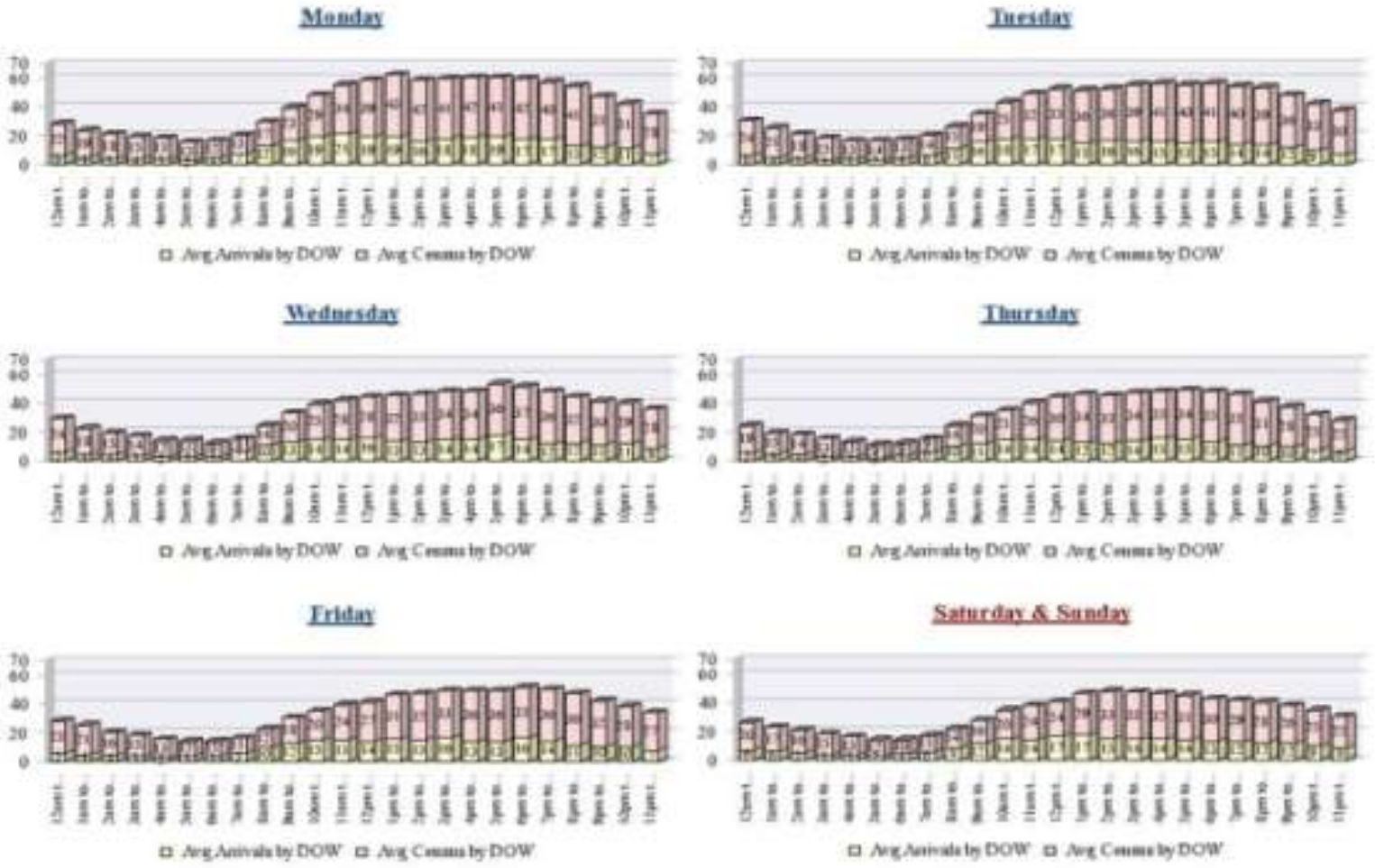
August



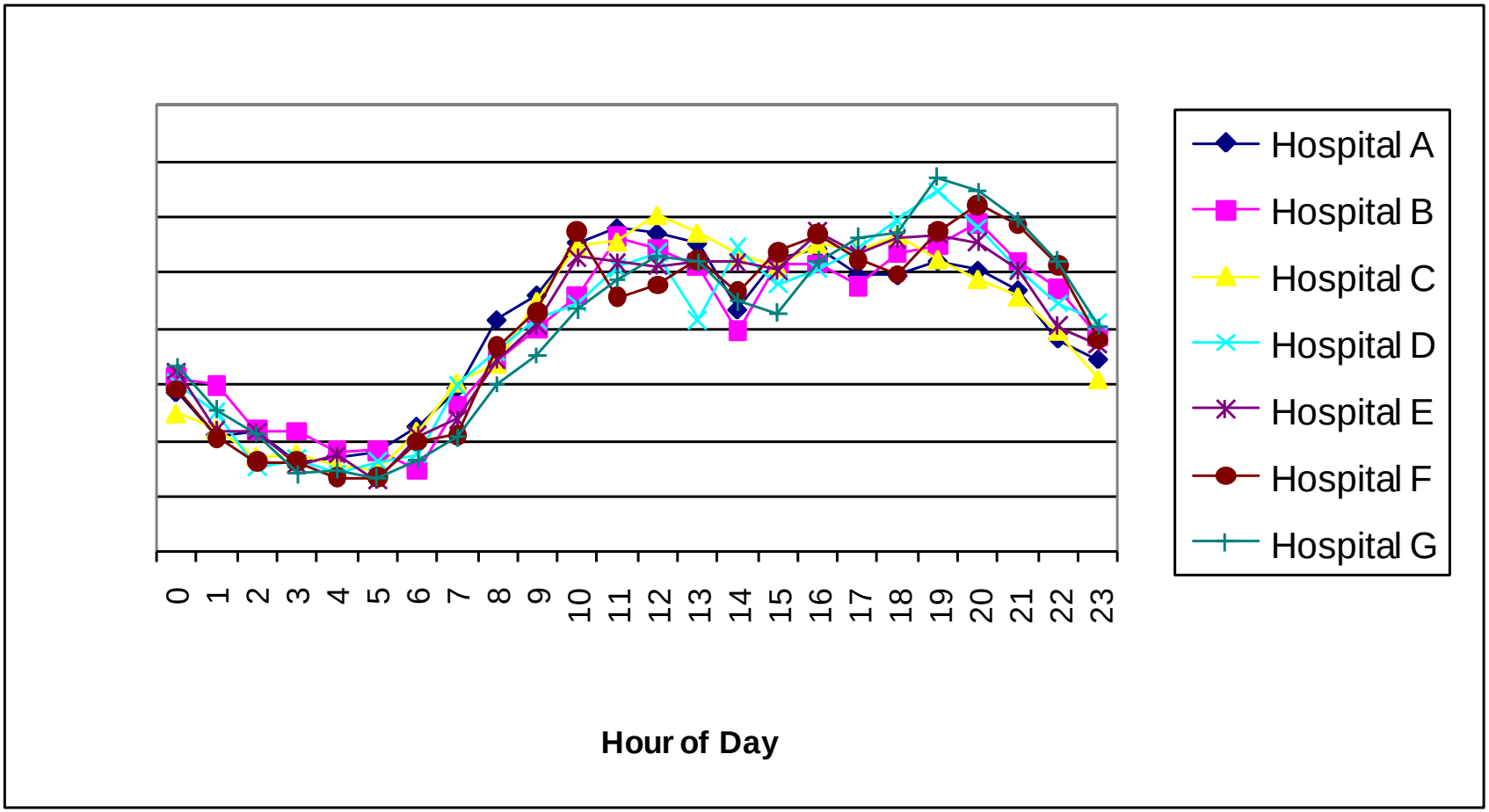
January



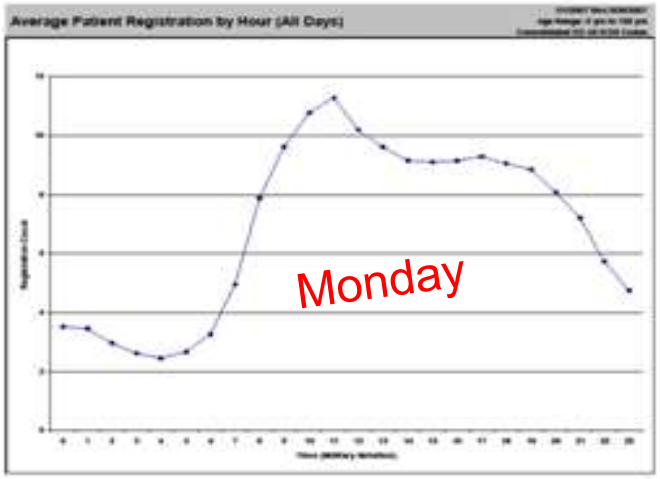
Patient Arrivals by Hour

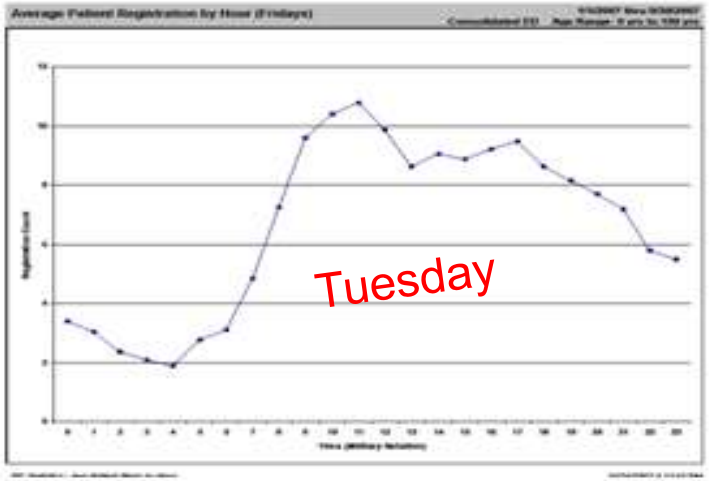


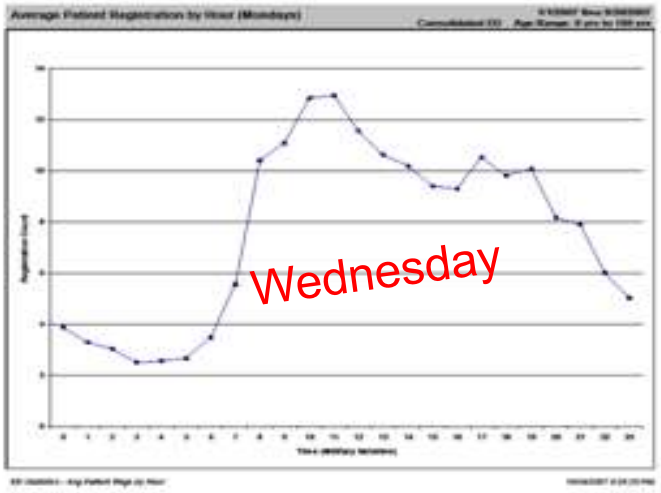
Patient Arrivals by Hour

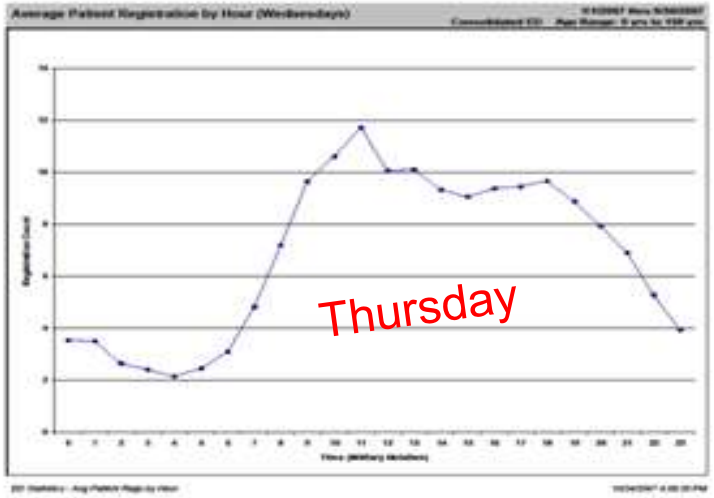


Patient Arrivals by Hour

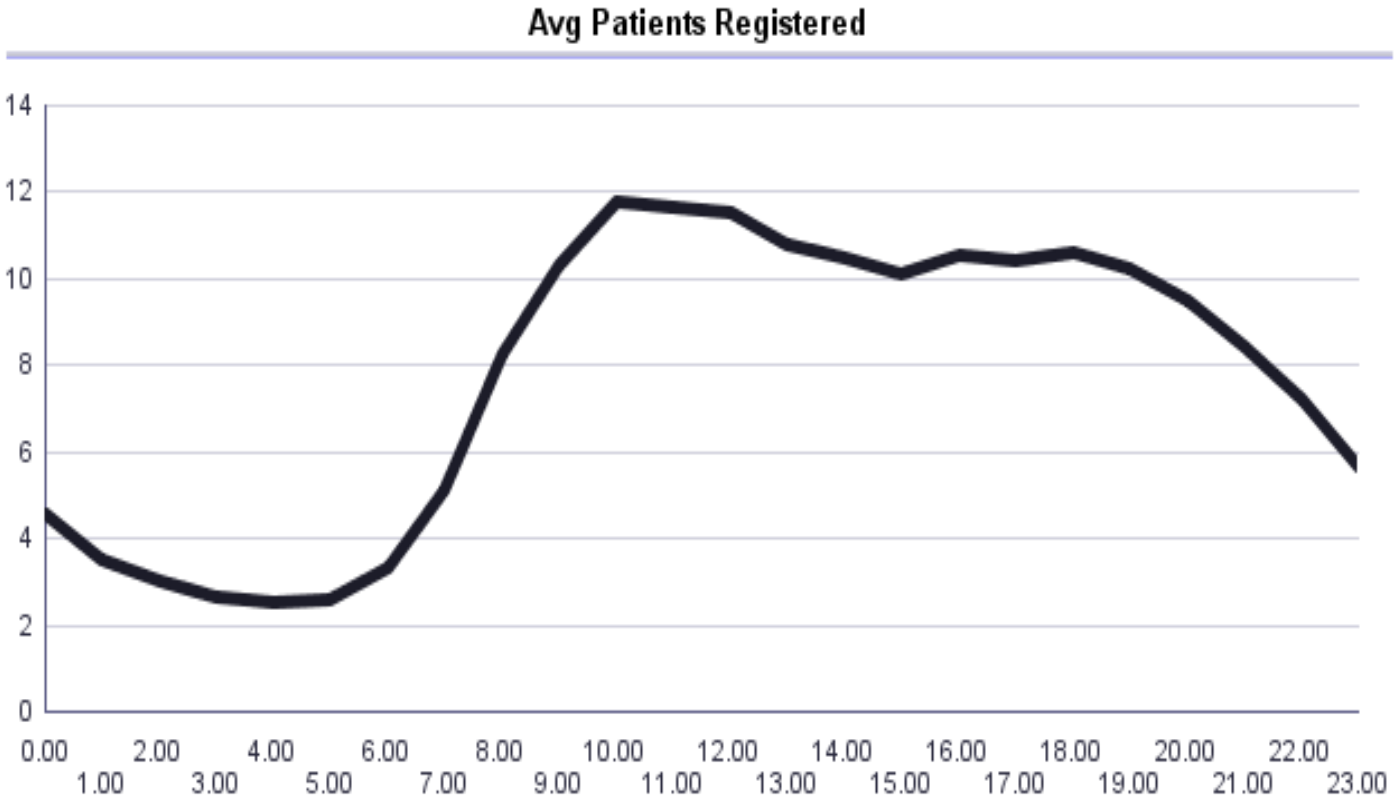




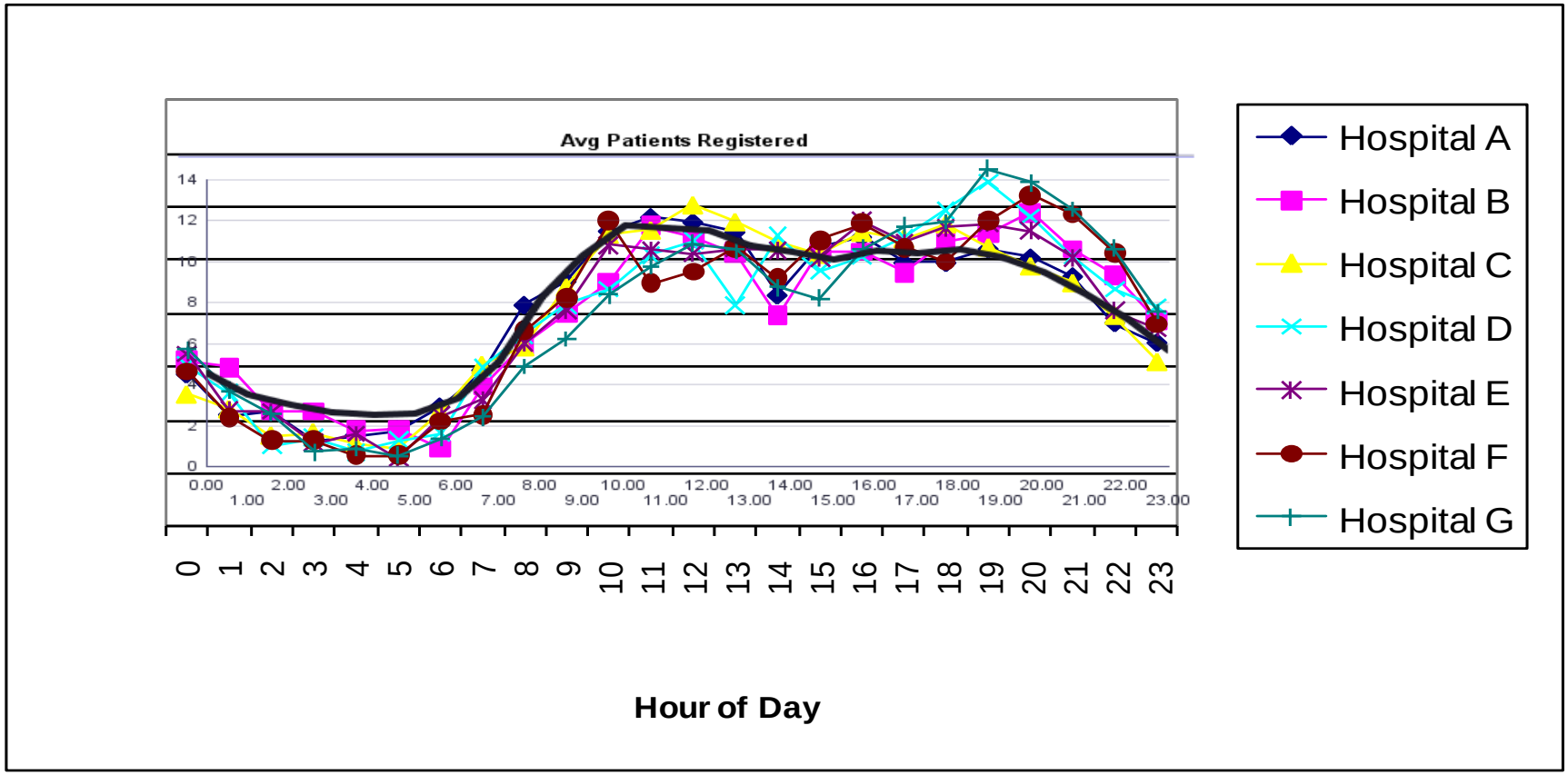




Patient Arrivals by Hour

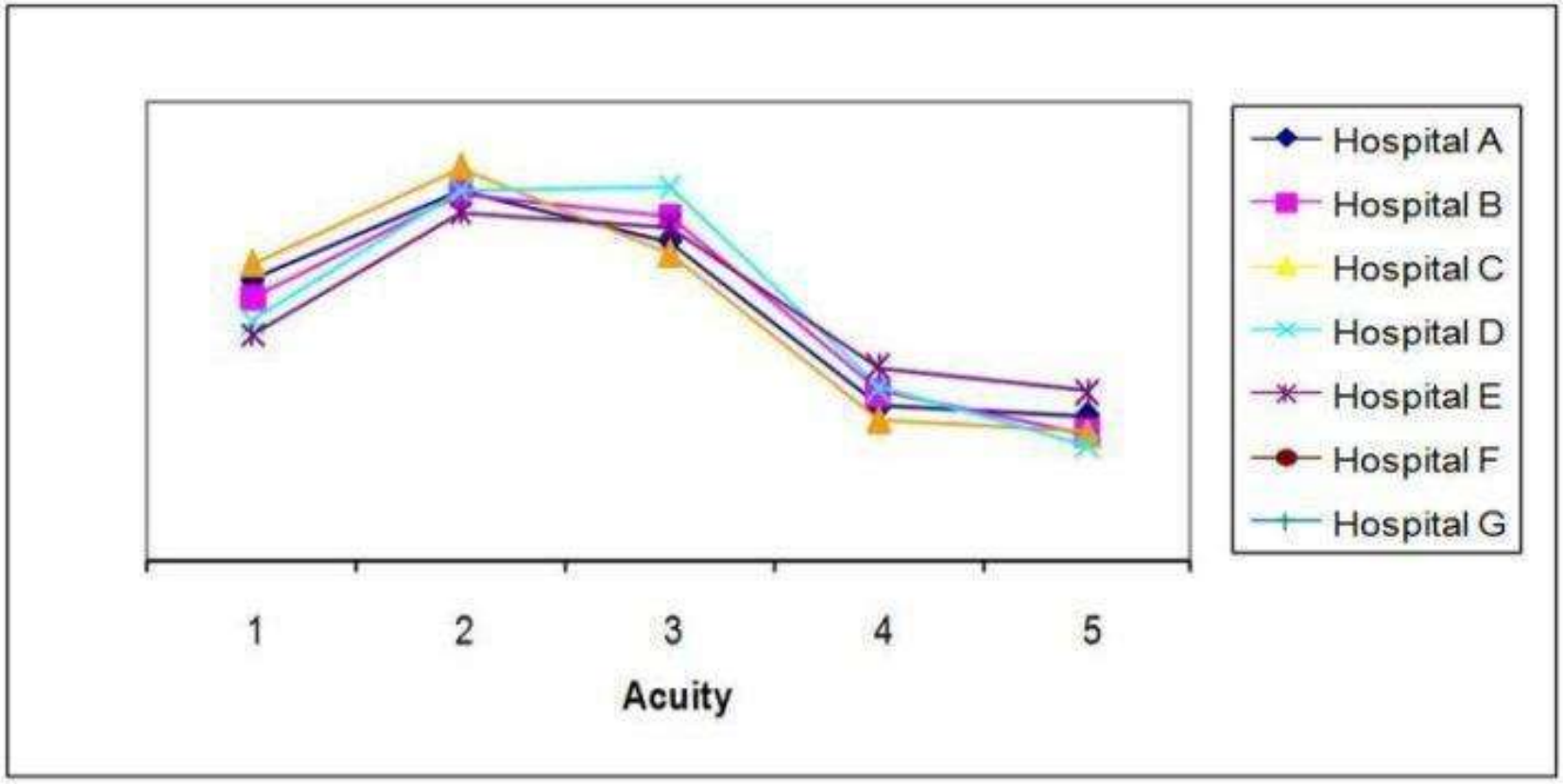


Patient Arrivals by Hour



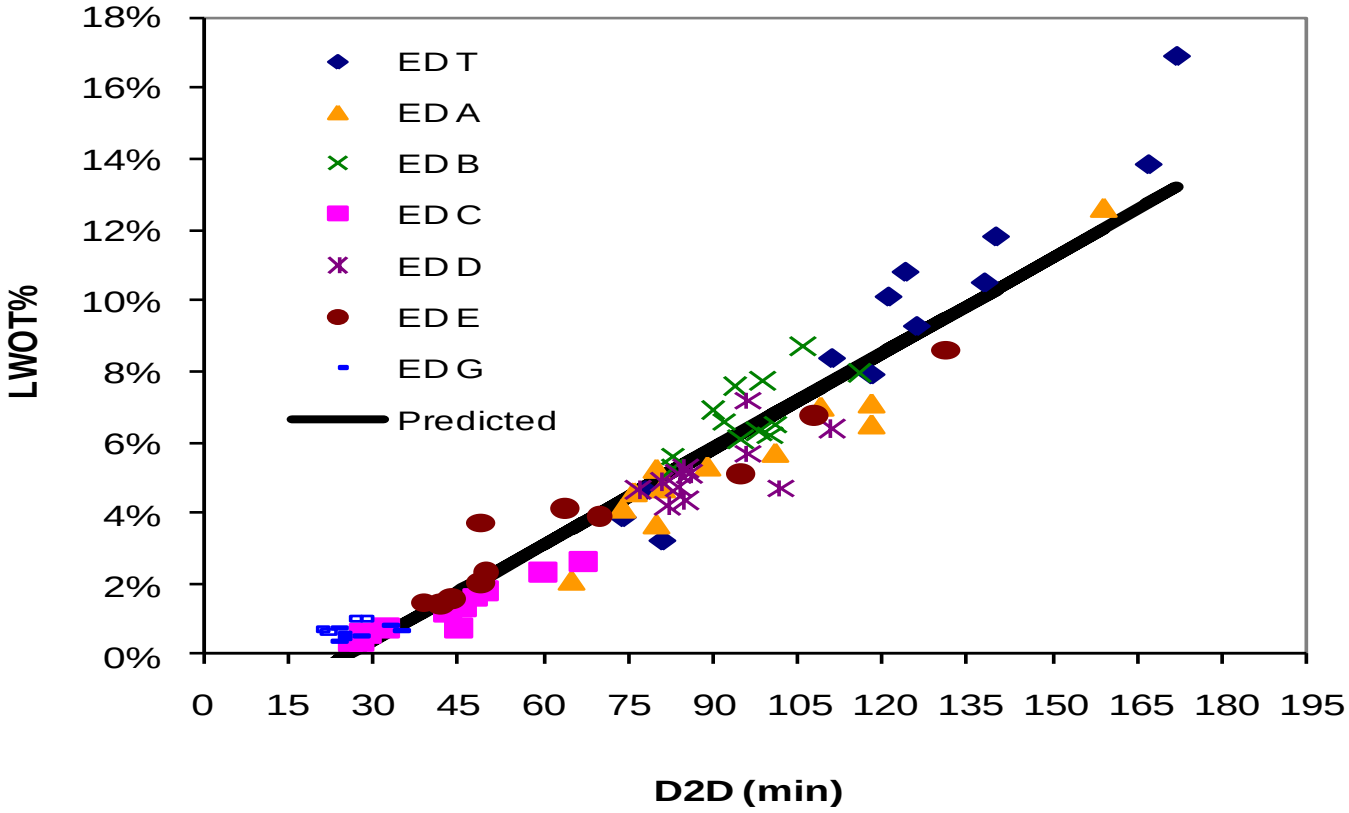
*Banner Health System

Acuity Distribution*



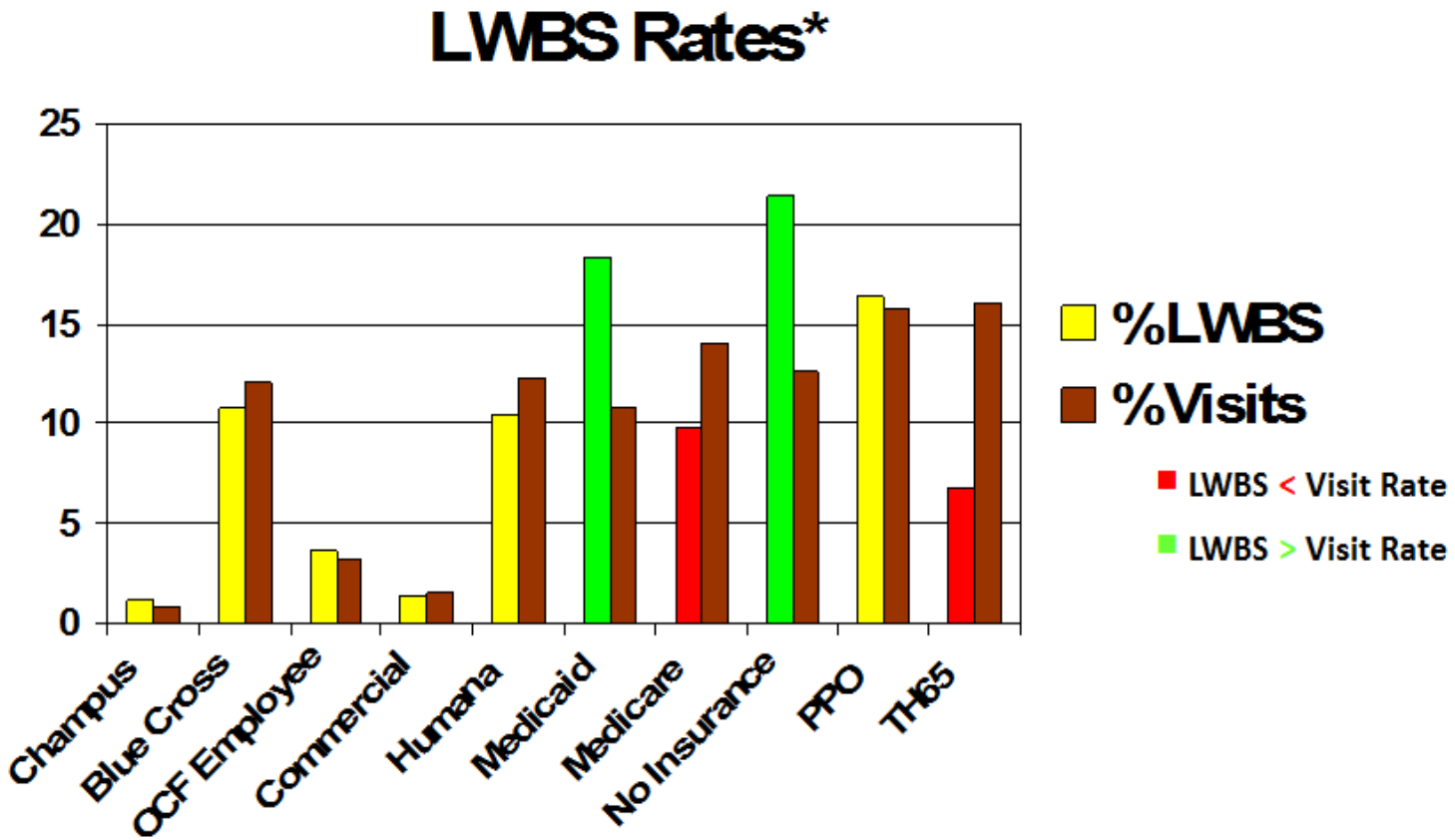
*Banner Health System

Patient Response to Wait Times

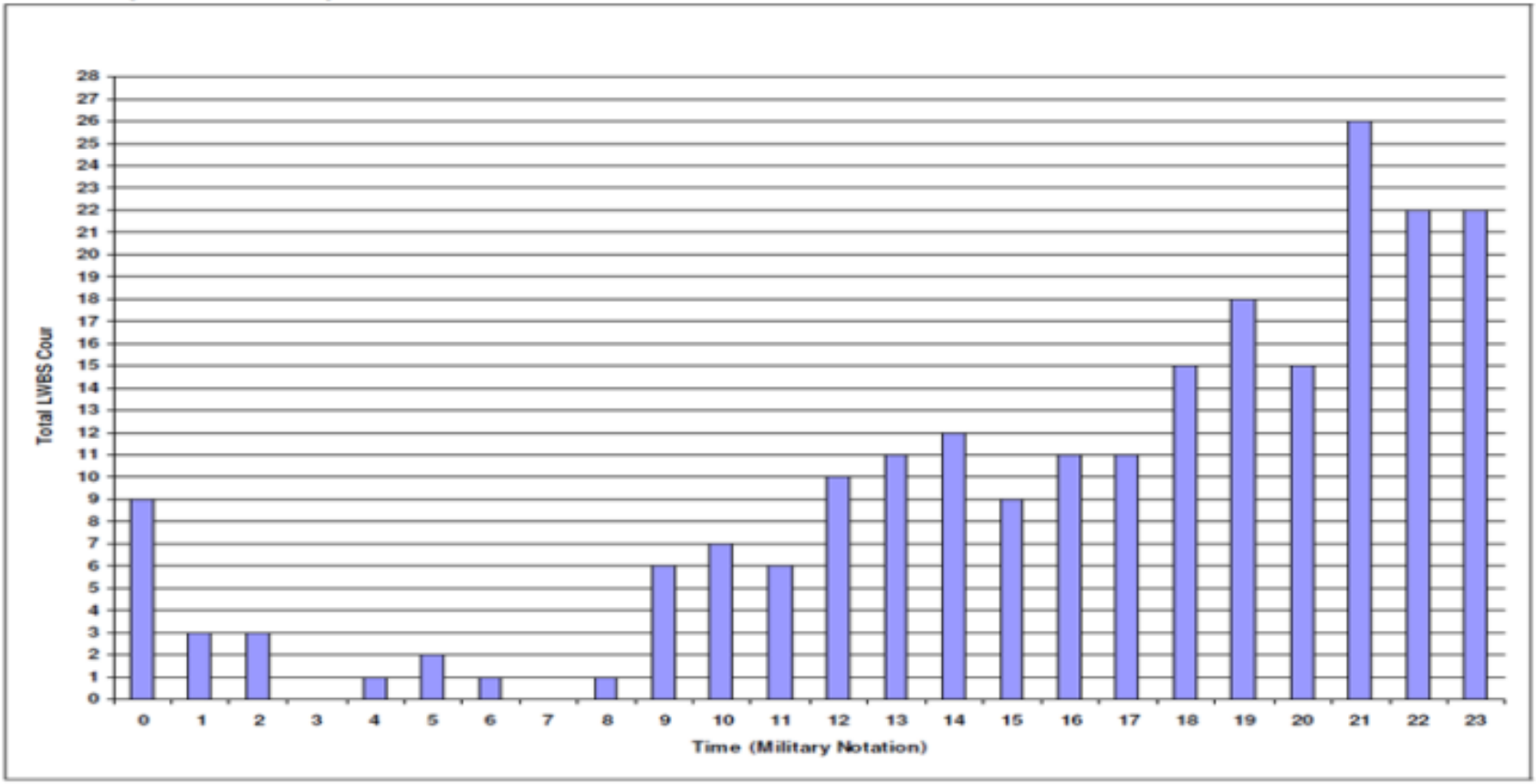


*Banner Health System

Who Leave Before Treatment



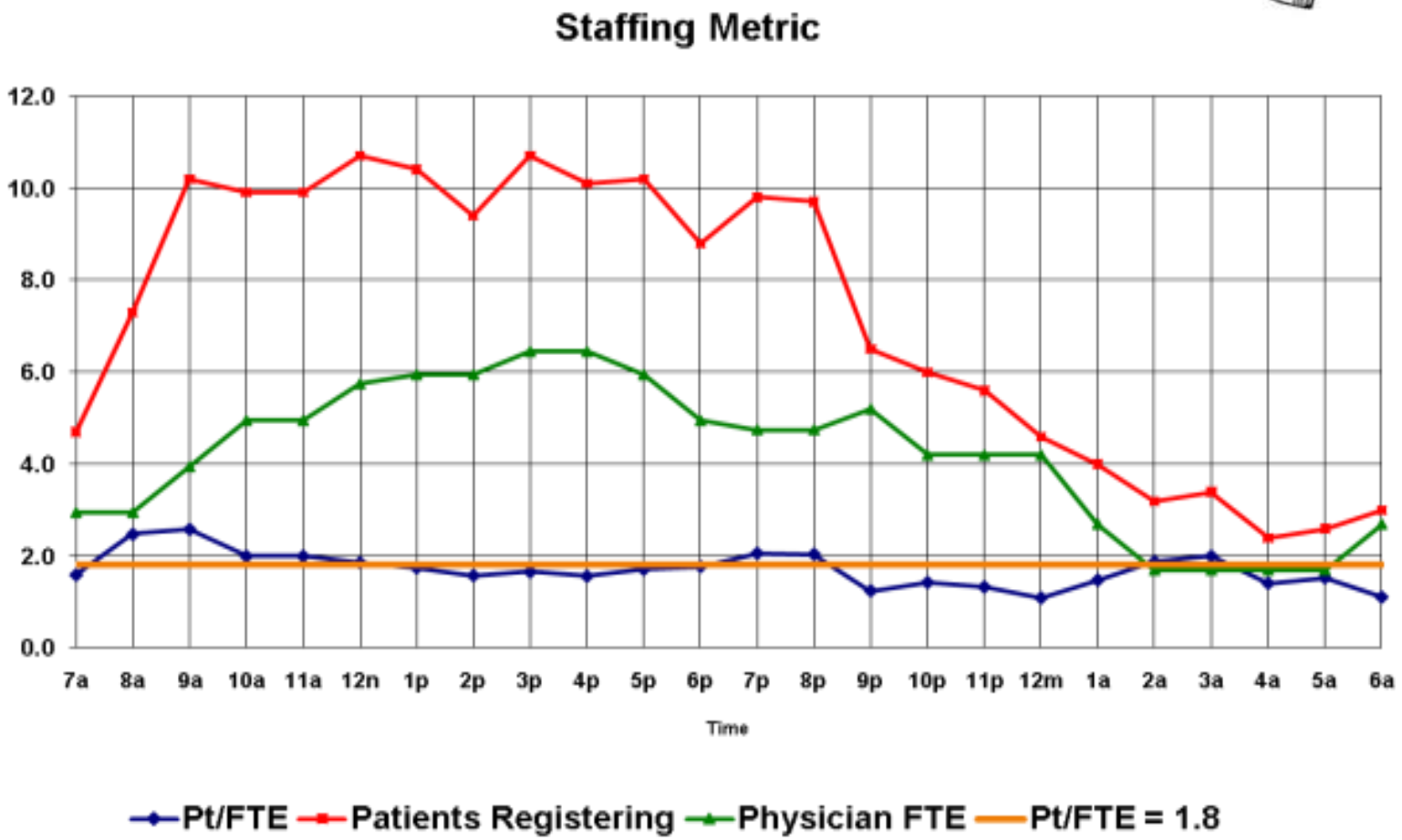
When do Patients Leave…

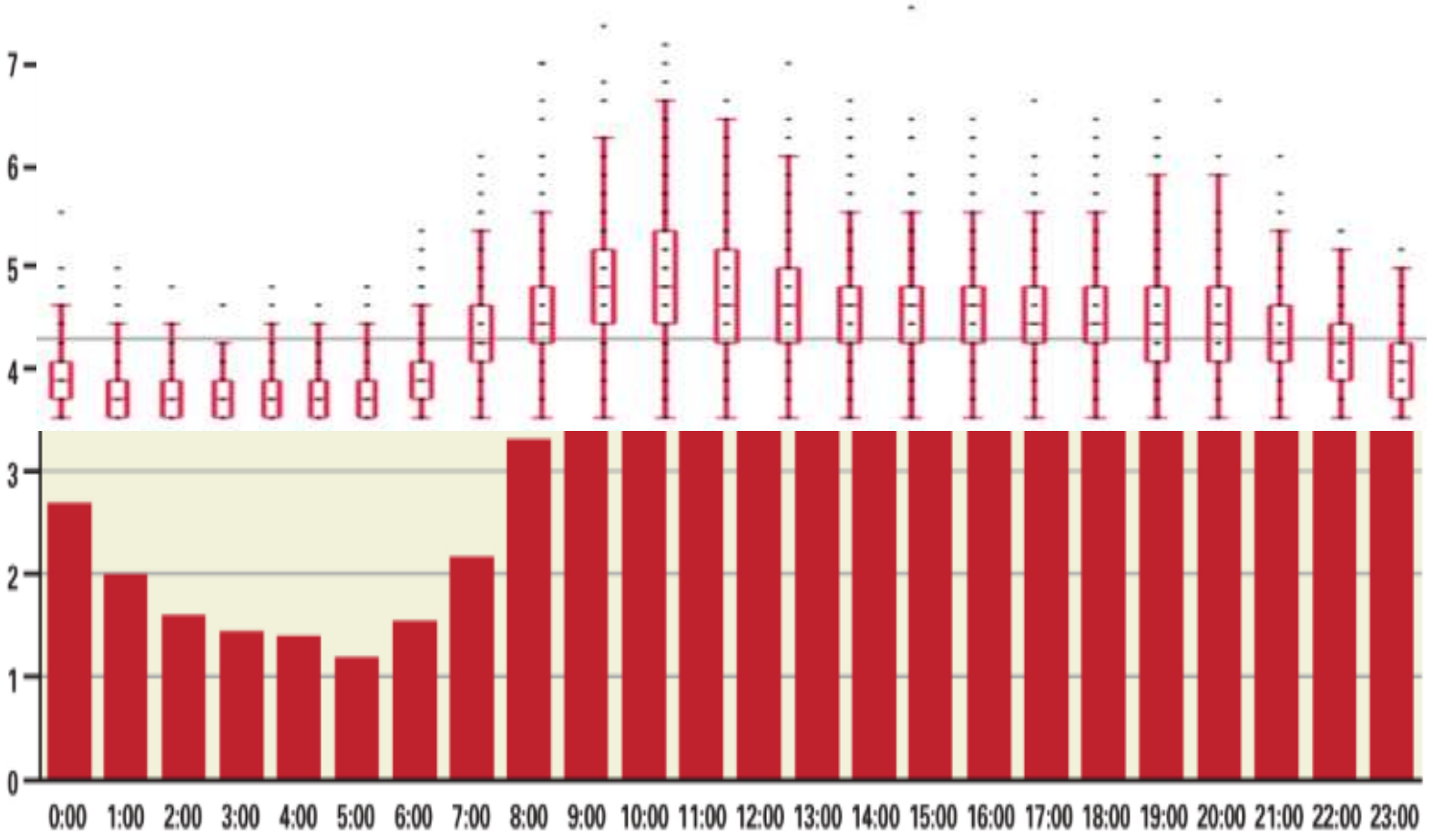


So why are patients waiting?

- We know how many are coming…
- We know when they are coming…
- We know how sick they will be…
- We know how long they will wait before leaving…
- We know when they will leave…
- We know who they are…
- **and we know how much it will cost us!**

Mapping to average demand

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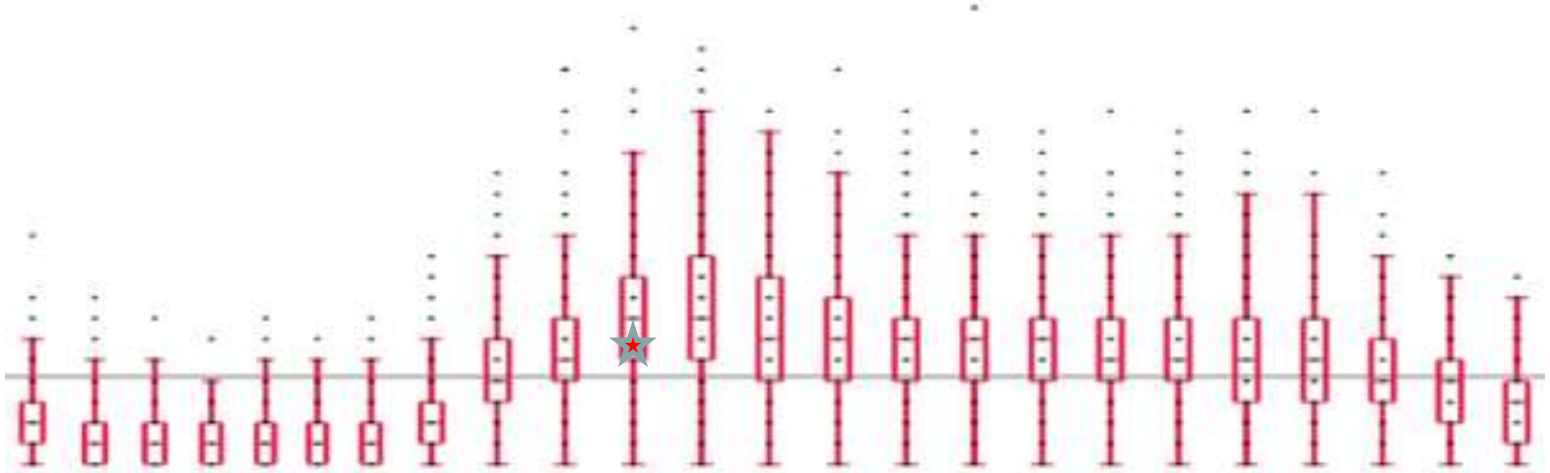
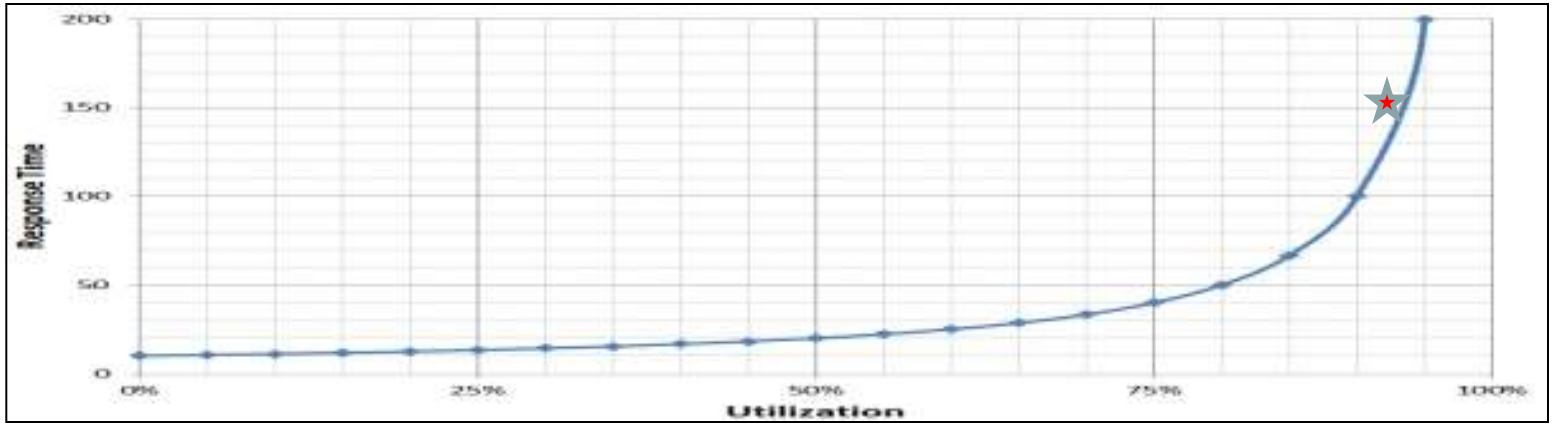
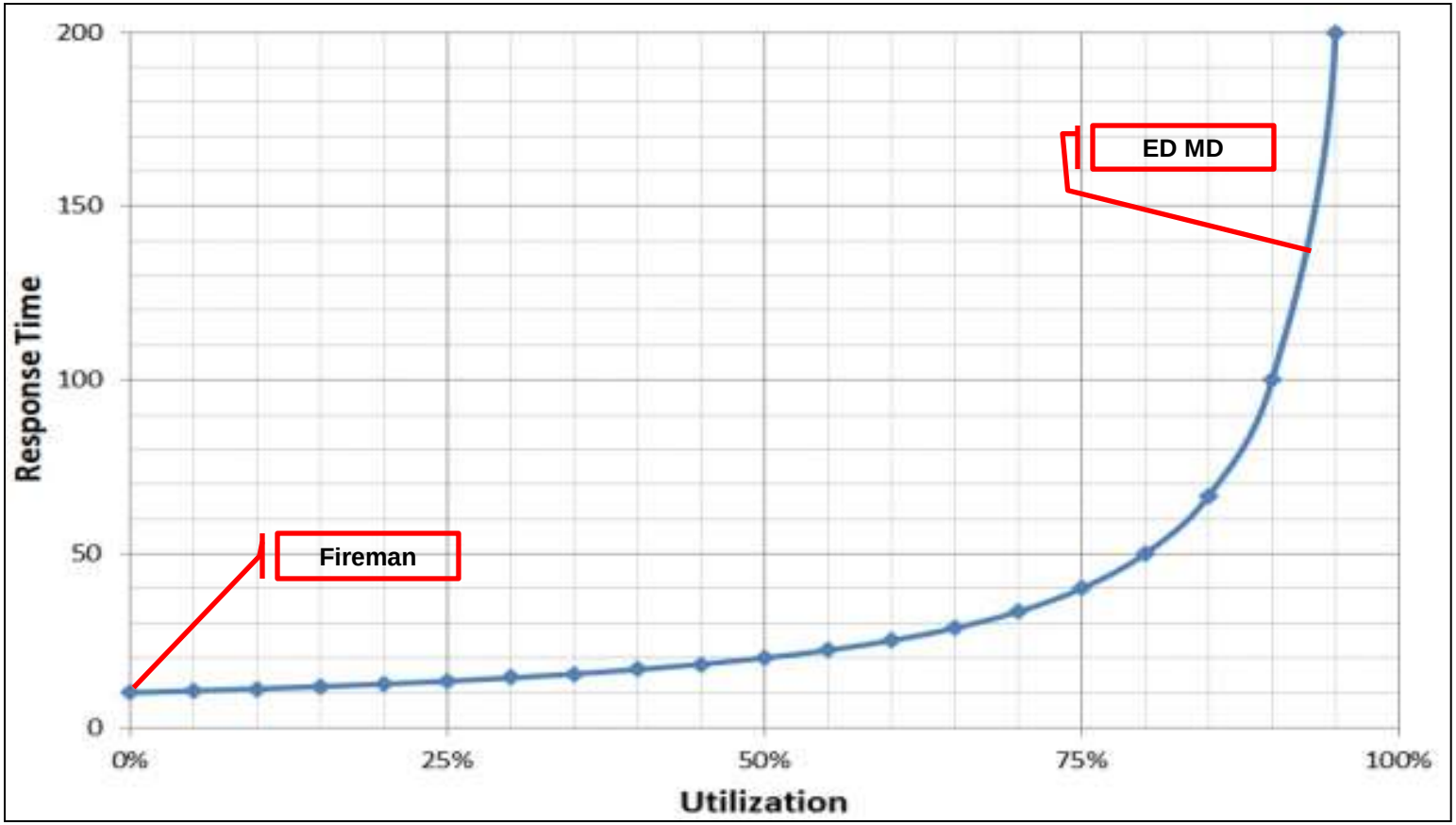
Utilization and Variance

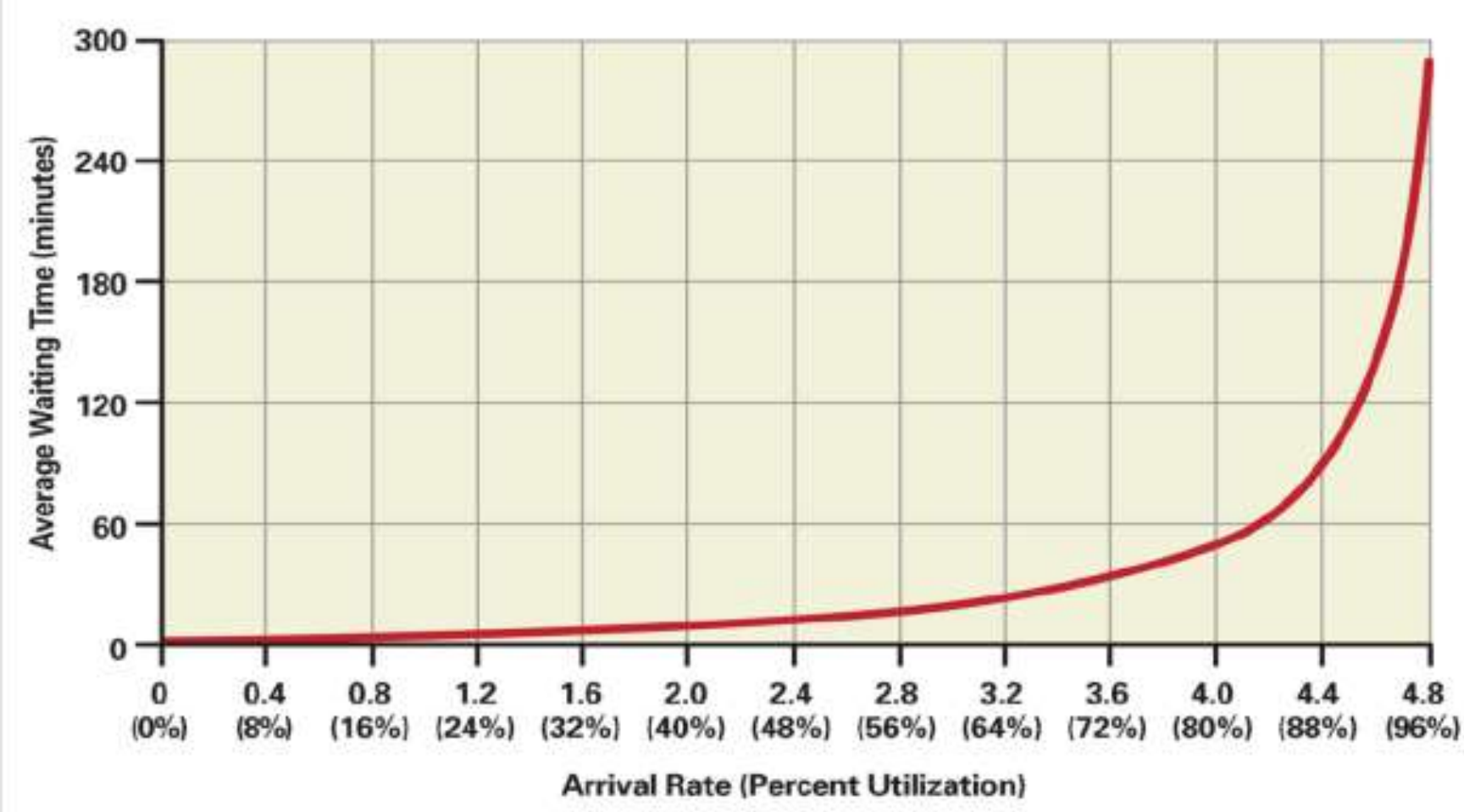




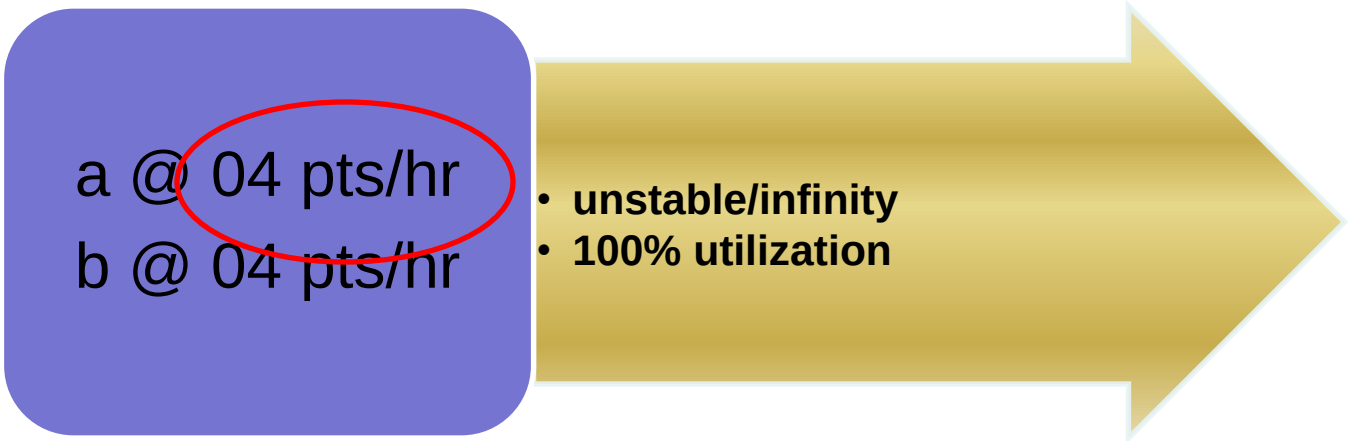
Wait Time and Utilization



Wait Time as a Function of Utilization



- Wait Time for a service/product = 1/(a-b)
  - a = service capacity (patients treated per hour)
  - b = arrival rate (patients arriving per hour)



- Wait Time for a service/product = 1/(a-b)
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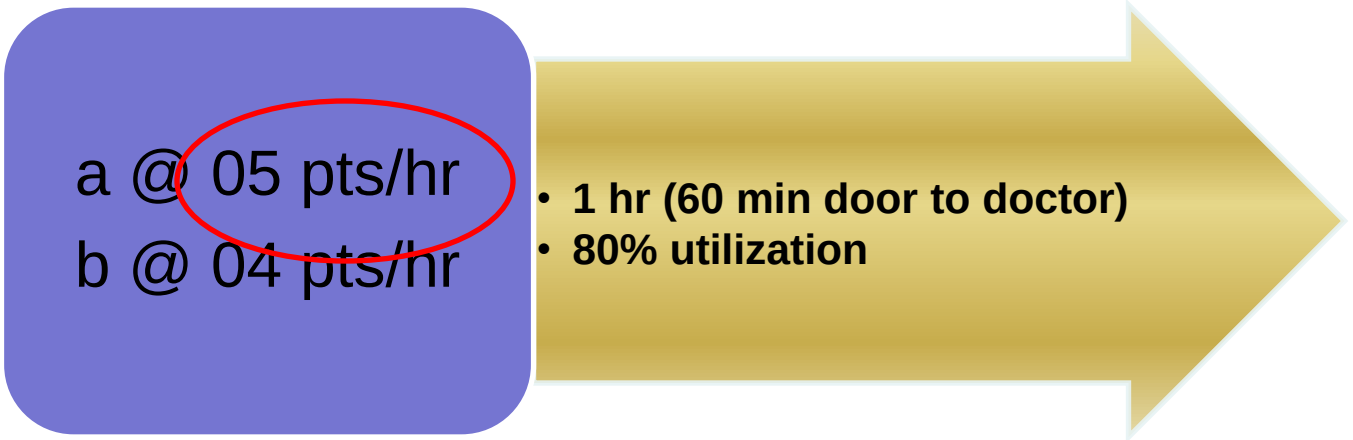

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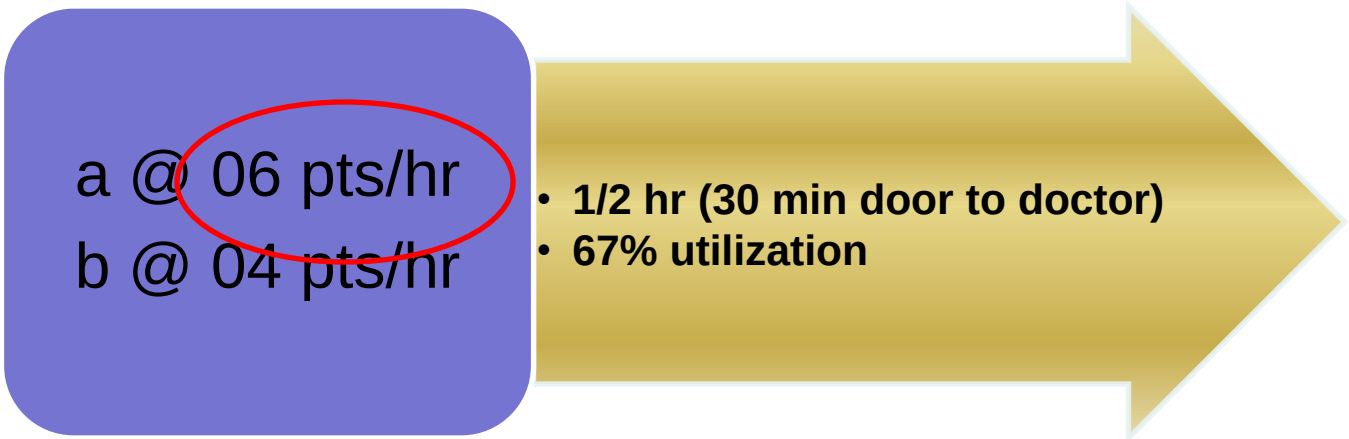

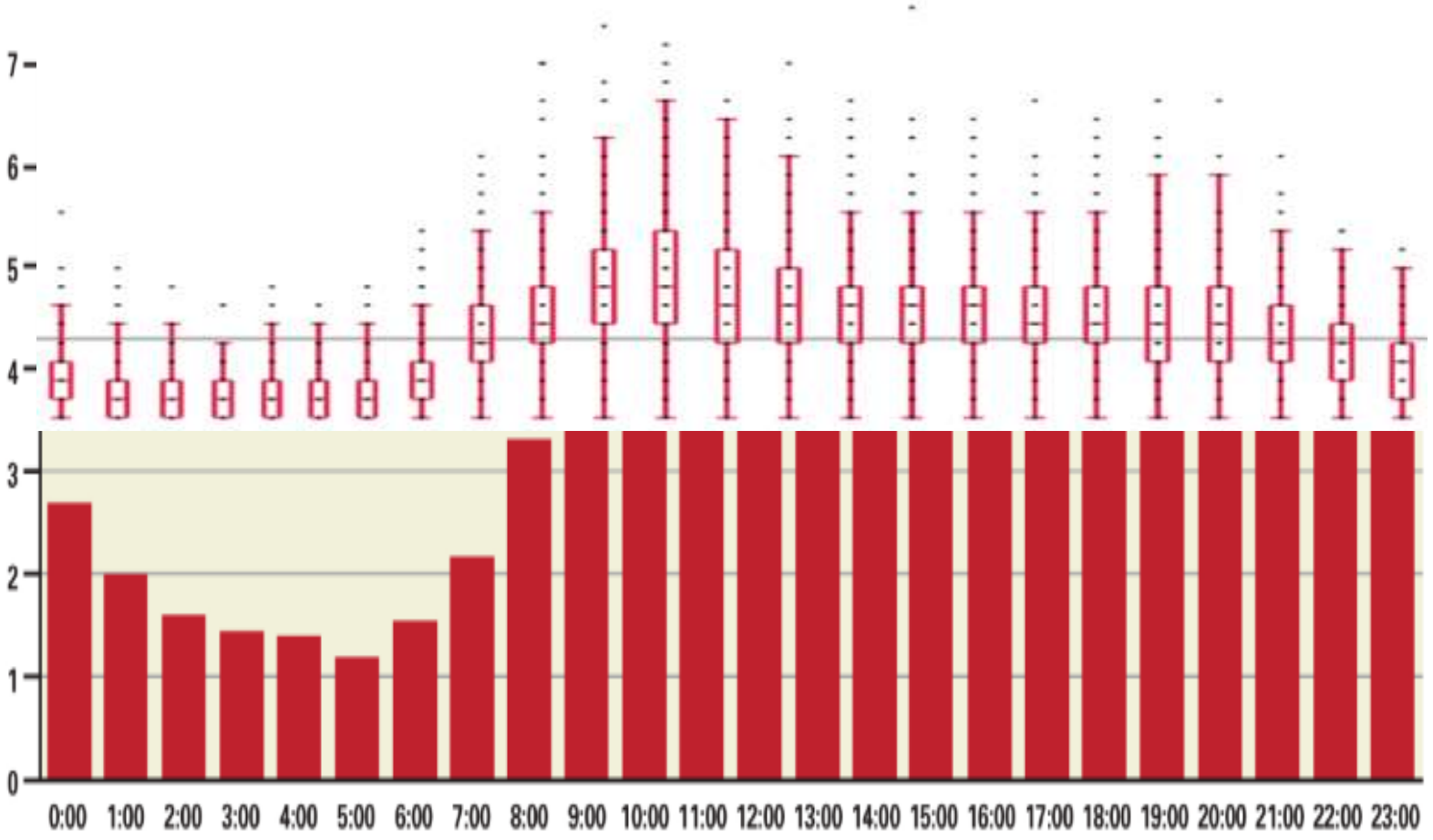
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Begin by measuring the hourly call rate from day-to-day over a period of time, say three months. Calculate the standard deviation for each hour period, multiply by 1.96 (the Z value for 95 percent confidence) and add to the mean call rate. Using the 95 percent service level (SL) call rate instead of the average call rate, one can now calculate staffing to support the 95 percent SL.

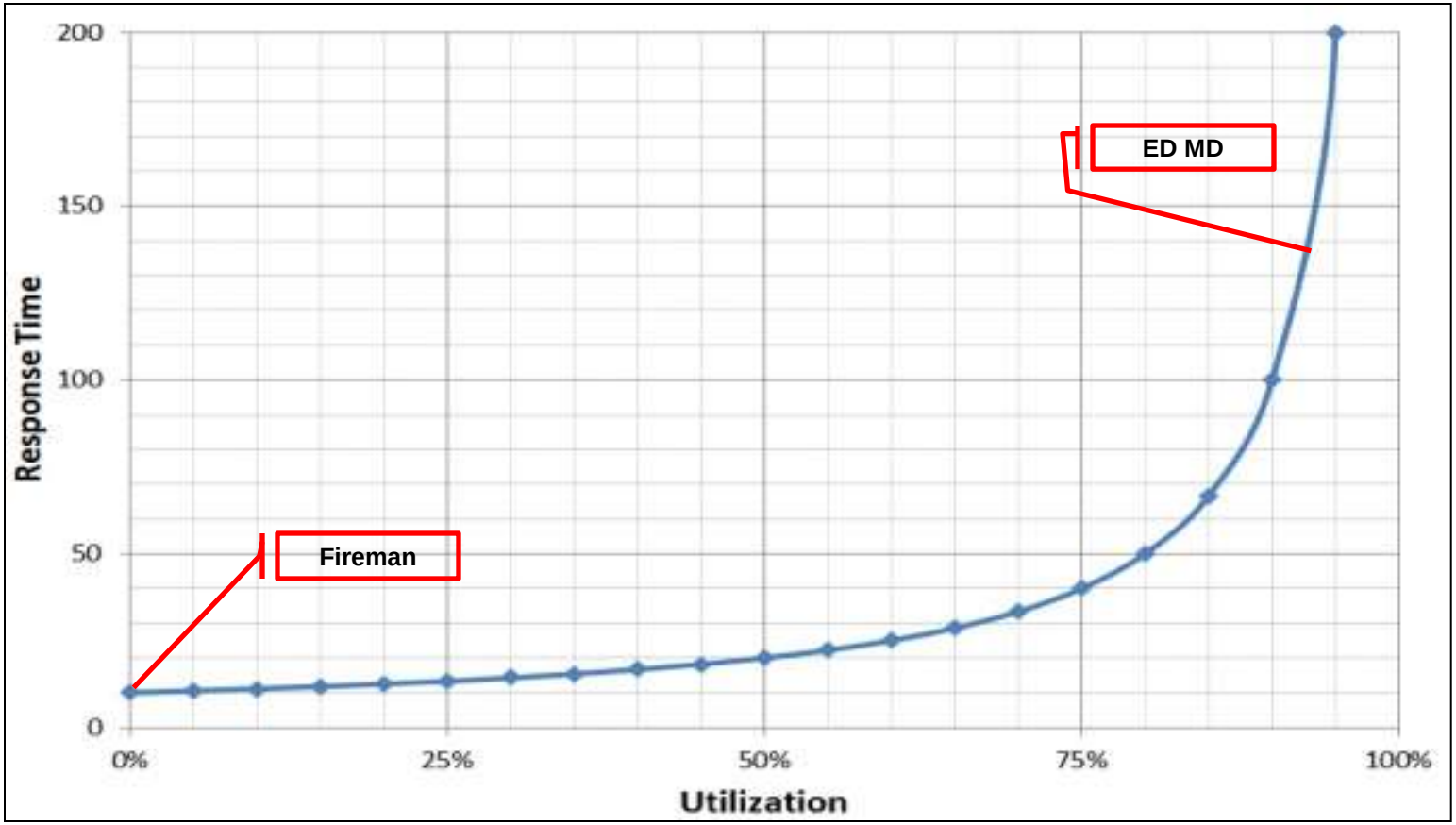
An appropriate schedule could be established to support the revised staffing levels. If there is significant variability in the length of calls, then that could be computed to a 95 percent service level and factored into the staffing calculation in the same way.

- **A 30 minute wait time says you guarantee great service (30 min D2D) 95% of the time not 50%**

- **Highly variable customer demand**
  - **>call centers**
  - **>retail**
  - **>electronics manufacturers**
  - **>emergency departments**

Build Bigger Buildings…!

Work Harder…!


200
150
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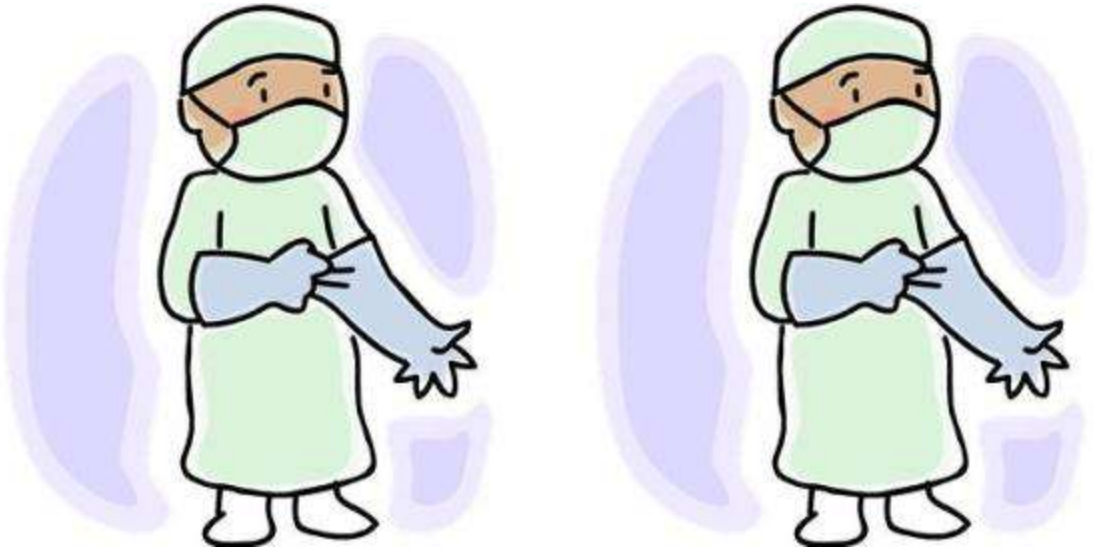
Response Time
0%
25%
50%
75%
100%
Utilization
ED MD
Fireman

Hire More Highly Priced Staff…!



a @ 04 pts/hr

b @ 04 pts/hr

1/0 hr (Infinity)

a @ 06 pts/hr

b @ 04 pts/hr

1/2 hr (30 min door to doctor)

a @ 10 pts/hr

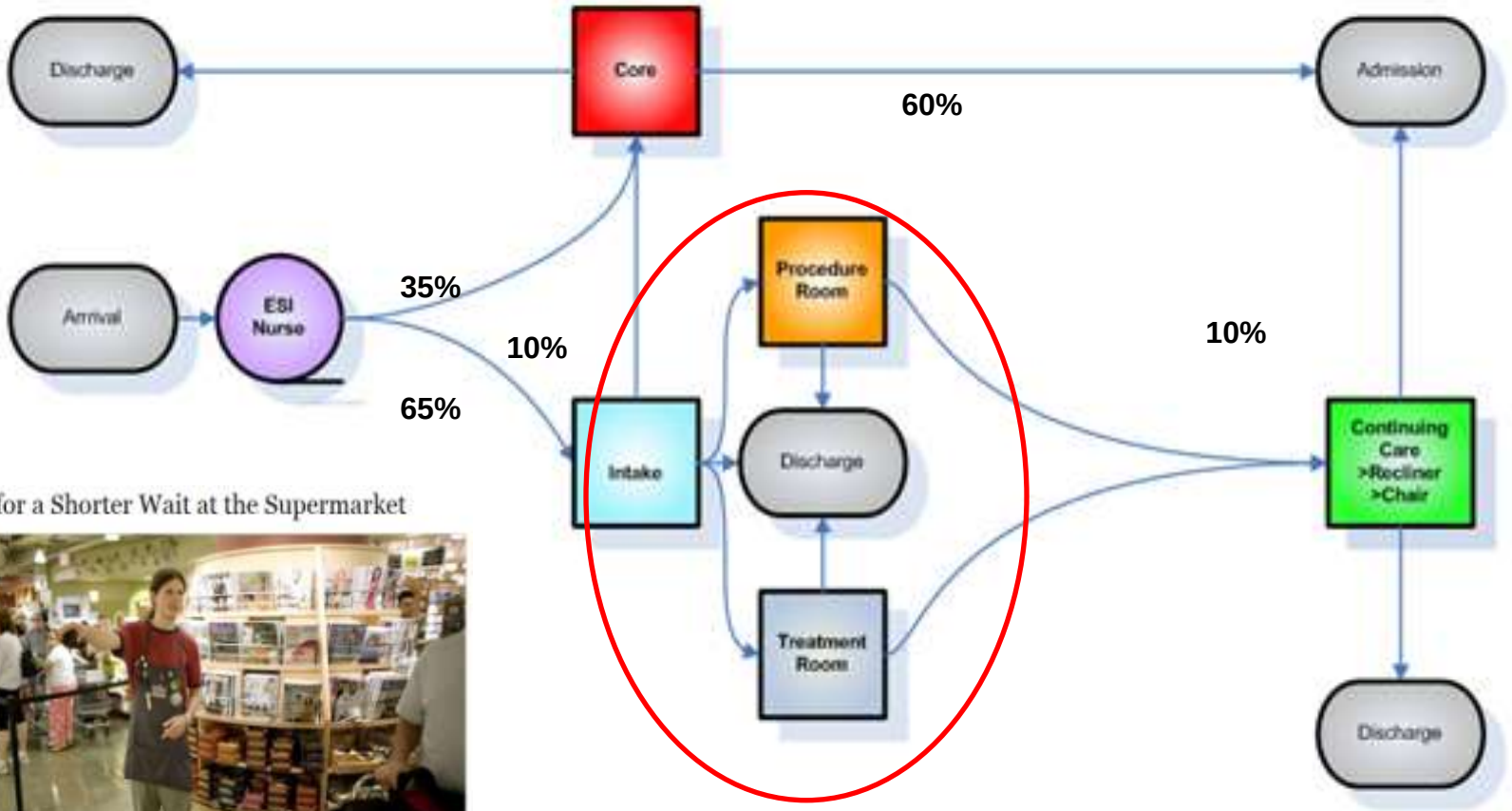
b @ 04 pts/hr

1/6 hr (15 min door to doctor)

Provider Cost Calculator

MD	Net MD Production	MD Cost	Advanced Practice Clinician	APC Cost	Total Cost/Hr	Total Pt/Hr	Cost/Pt
2	2.0	$400.00	0	$0.00	$400.00	4	$100.00
1	0.8	$200.00	1	$50.00	$250.00	3.6	$69.44
1	0.6	$200.00	2	$100.00	$300.00	5.2	$57.69
1	0.4	$200.00	3	$150.00	$350.00	6.8	$51.47
1	0.2	$200.00	4	$200.00	$400.00	8.4	$47.62

Workflow

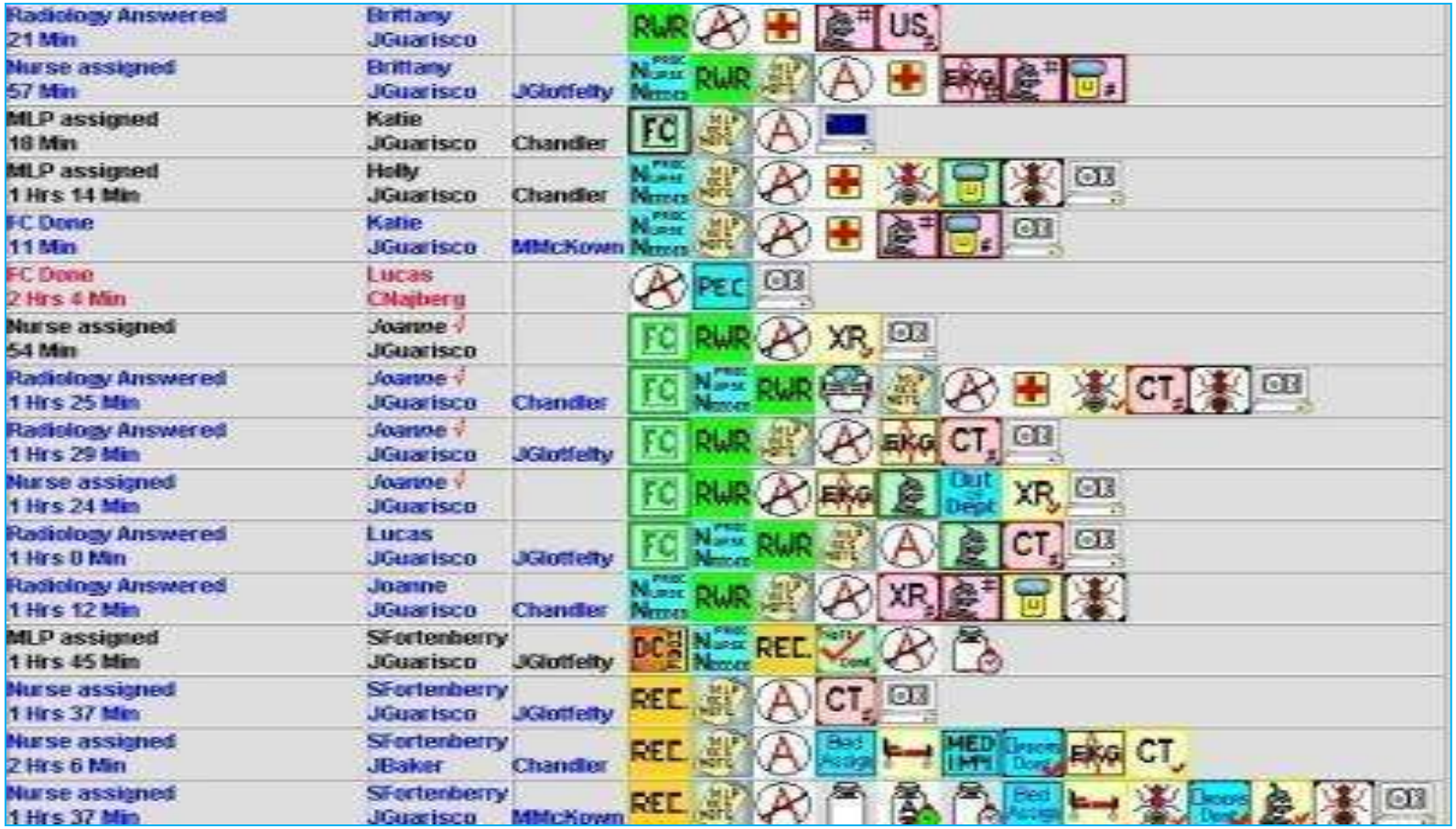


A Long Line for a Shorter Wait at the Supermarket

qTrack©

- Registration
- Triage
- Intake
- Procedure
- Treatment
- Results Waiting

Virtual Capacity

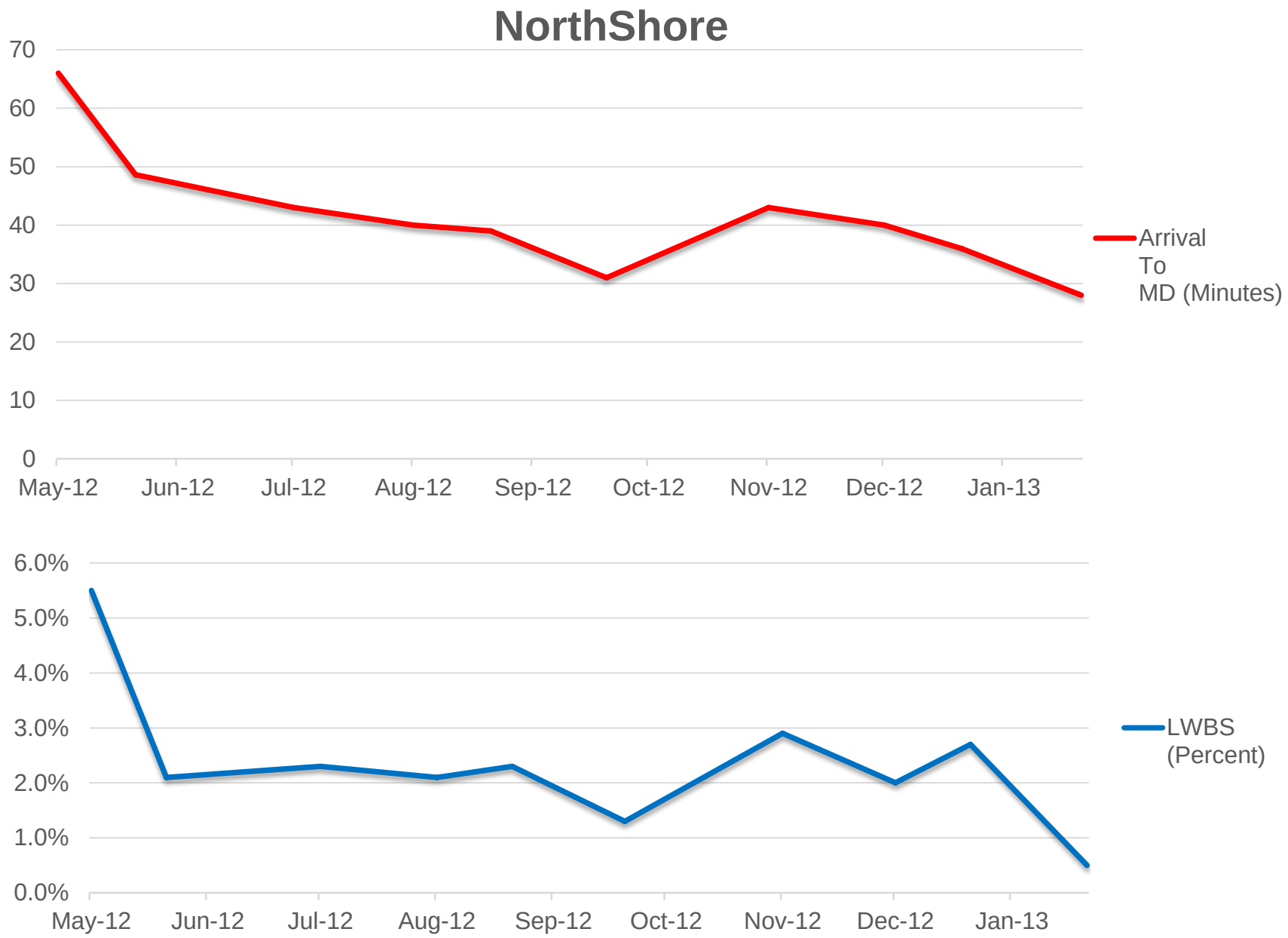


Celebration Hospital Disney - Orlando, Florida

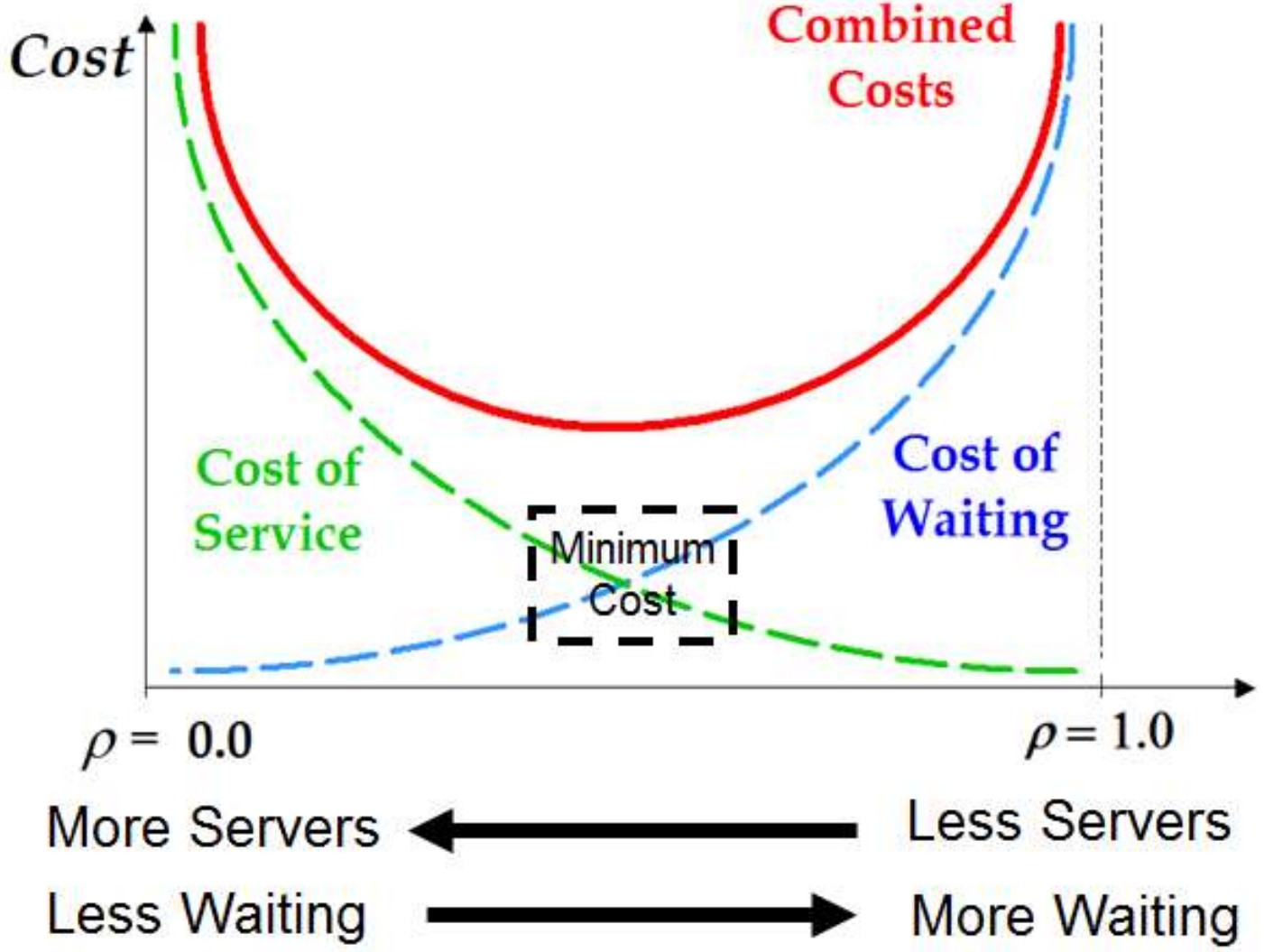
by Walt Disney

St Charles Hospital - Luling, Louisiana

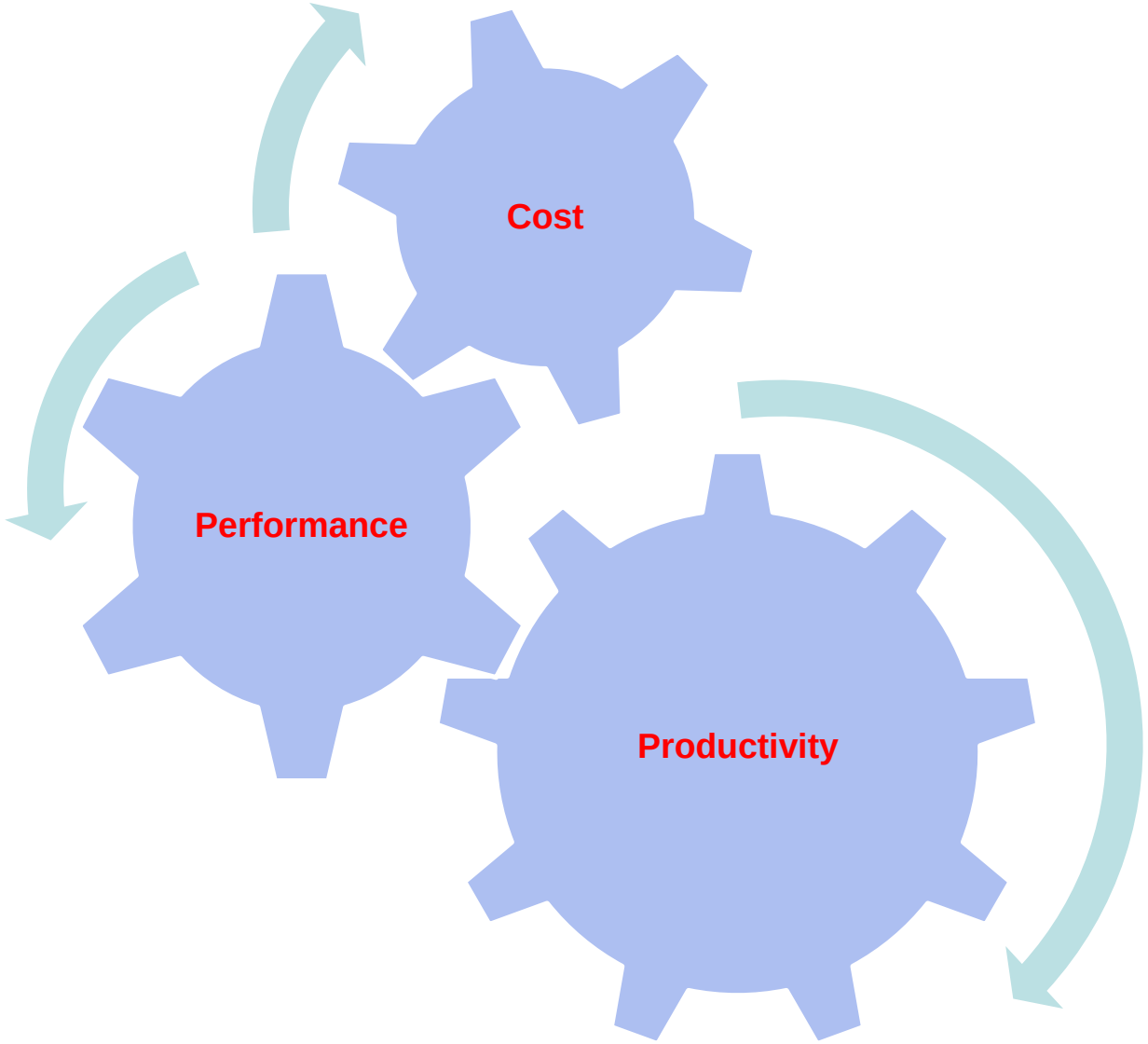
by Joe Guarisco


NorthShore
70
60
50
40
30
20
10
0
May-12
Jun-12
Jul-12
Aug-12
Sep-12
Oct-12
Nov-12
Dec-12
Jan-13
Arrival To MD (Minutes)
6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
May-12
Jun-12
Jul-12
Aug-12
Sep-12
Oct-12
Nov-12
Dec-12
Jan-13
LWBS (Percent)

OPTIMIZATION TOOLS

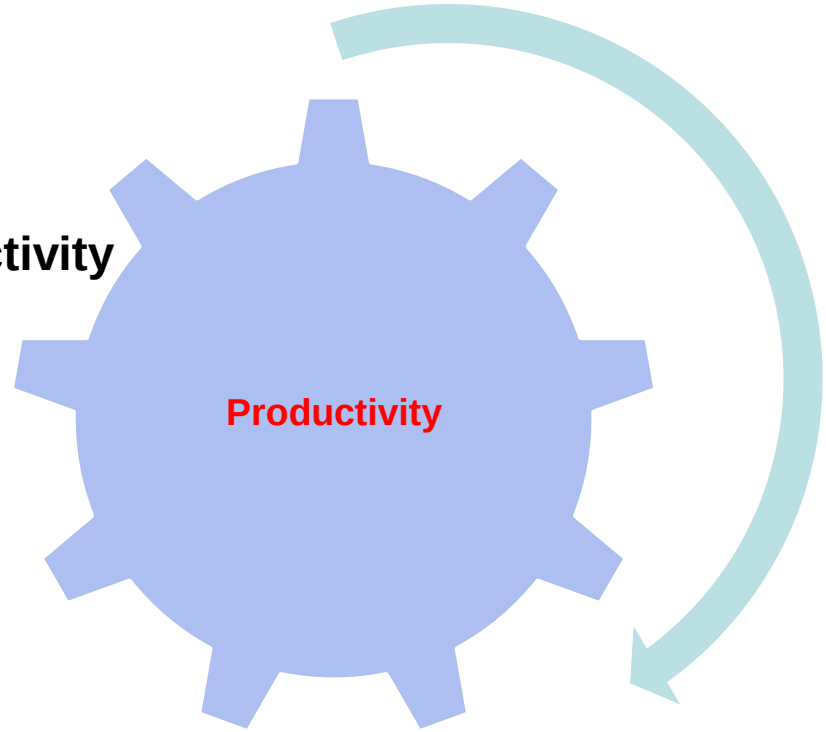

Cost
Combined Costs
Cost of Service
Cost of Waiting
Minimum Cost
ρ = 0.0
ρ = 1.0
More Servers
Less Servers
Less Waiting
More Waiting

Optimization Tools



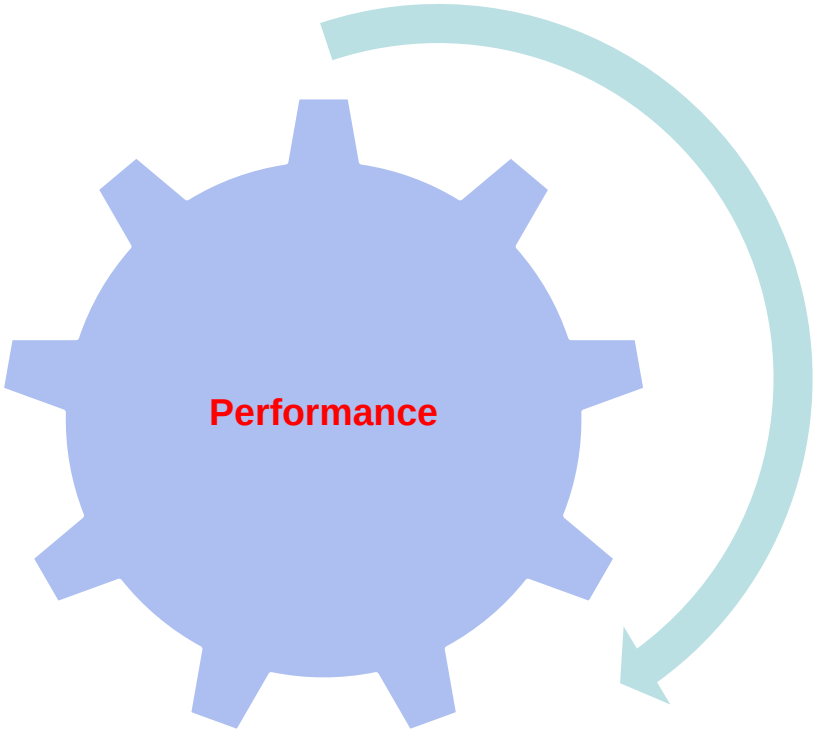
Optimization Tools

Measures detailed productivity
>provider level
>dynamic



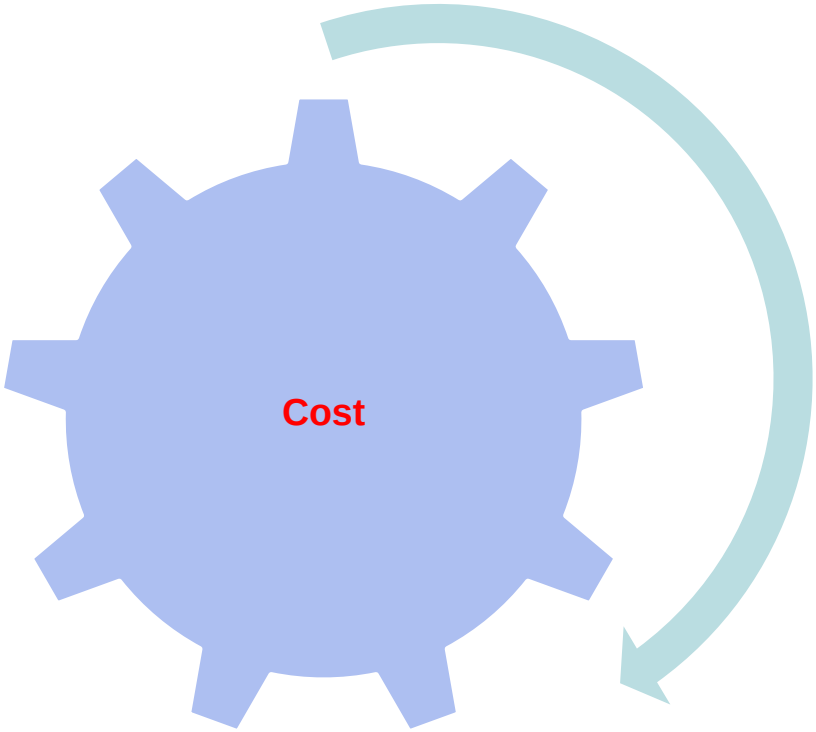
Optimization Tools

Delivers service metrics
>best
>optimal based on cost
>target



Optimization Tools

Delivers cost per visit
>lowest
>optimal based on service
>target



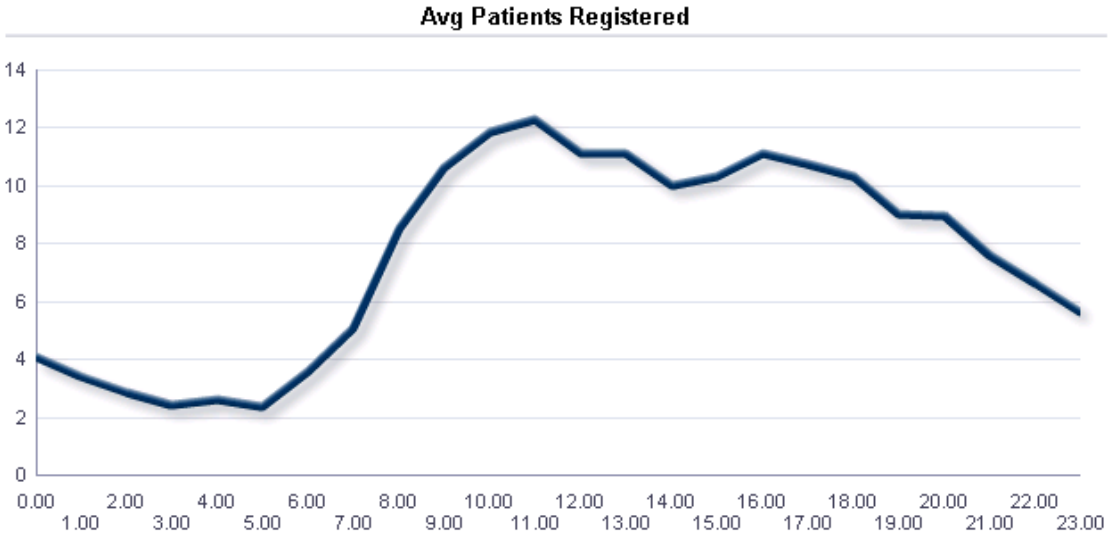
Oracle Business Intelligence

ORACLE Business Intelligence

Avg Patient Reg by Hour (All Days)

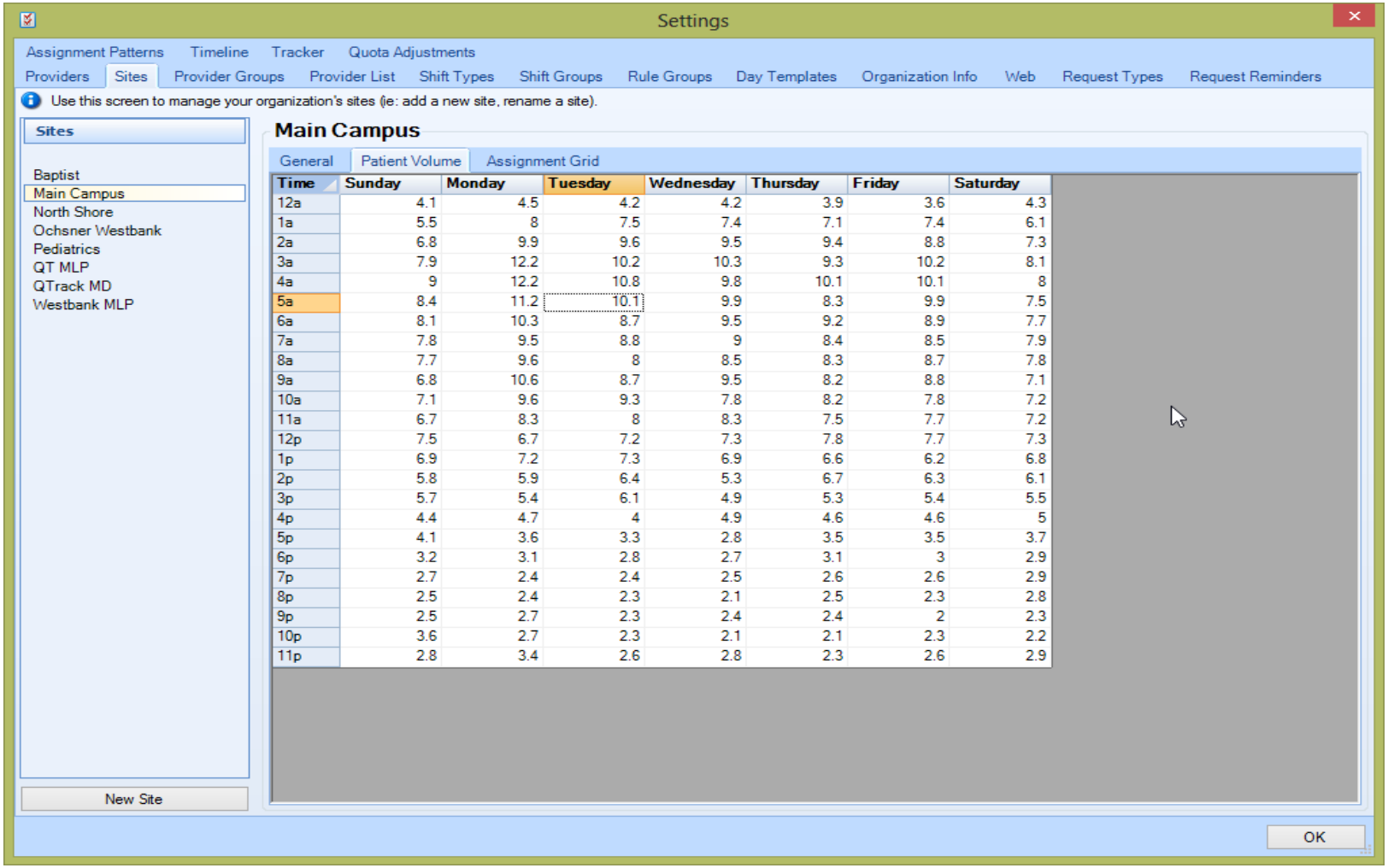
Ochsner Health System
Emergency Department
Avg Patient Reg by Hour (All Days)
Date Range : 01/01/2013,03/31/2013
ED Site : 'MAIN CAMPUS'

Military Hour	Avg Patients Registered
0.00	4.10
1.00	3.38
2.00	2.86
3.00	2.43
4.00	2.60
5.00	2.35
6.00	3.59
7.00	5.06
8.00	8.51
9.00	10.59
10.00	11.85
11.00	12.26
12.00	11.10
13.00	11.13
14.00	9.97
15.00	10.27
16.00	11.09
17.00	10.75
18.00	10.27
19.00	9.00
20.00	8.92
21.00	7.61
22.00	6.60
23.00	5.64



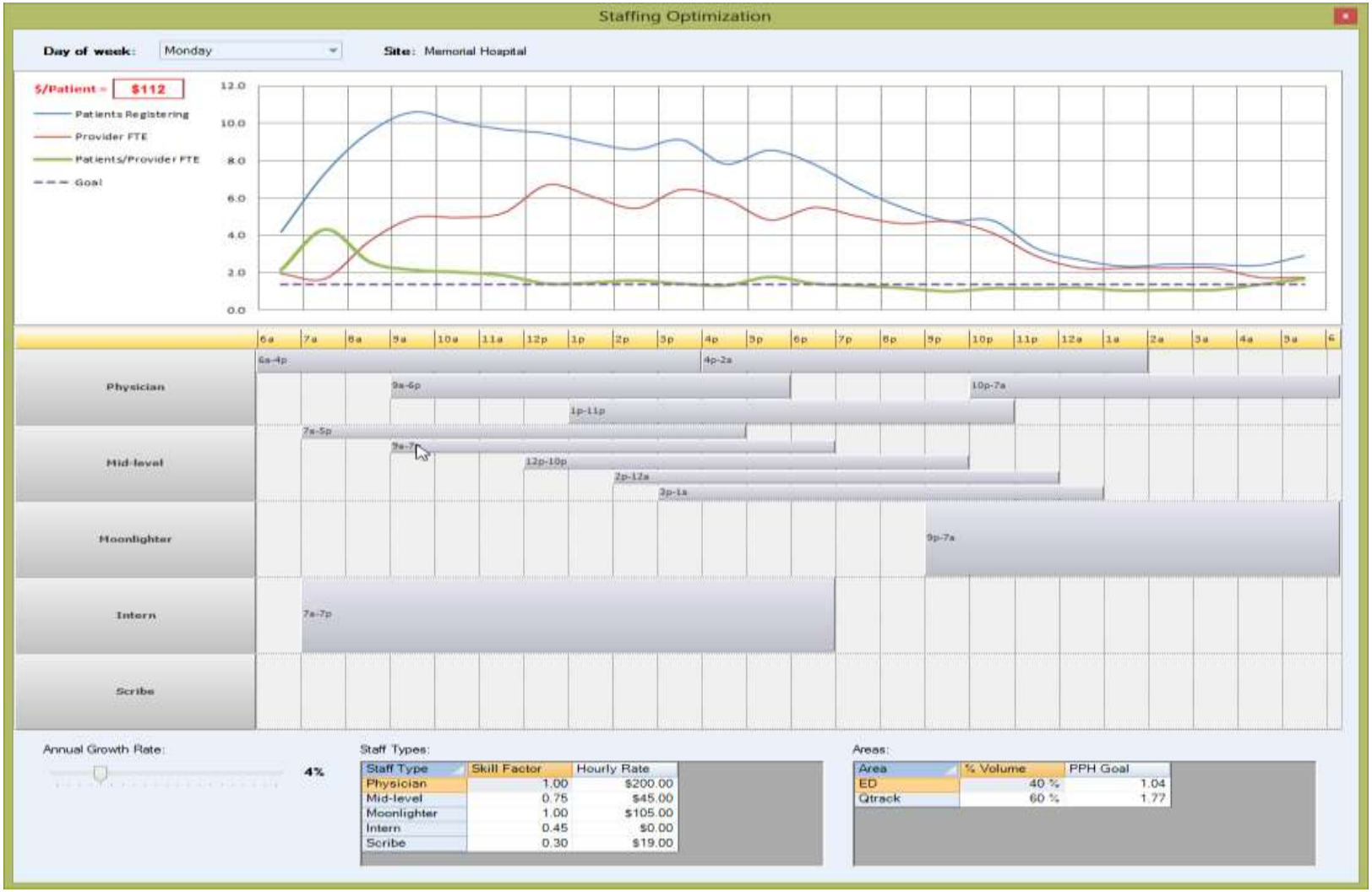
Edit - Refresh - Print - Export - Copy

Intrigma Cost Optimizer©

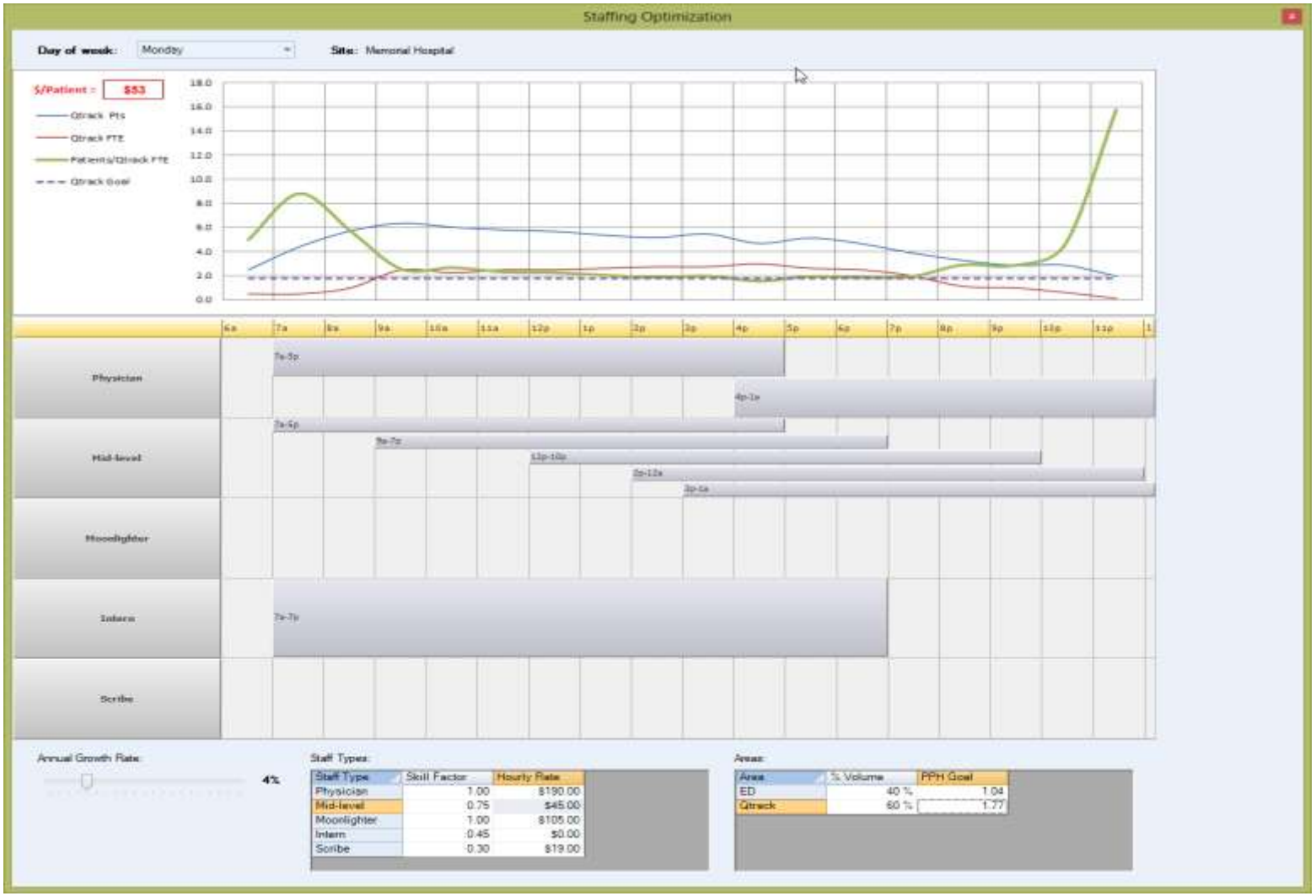


Time	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
12a	4.1	4.5	4.2	4.2	3.9	3.6	4.3
1a	5.5	8	7.5	7.4	7.1	7.4	6.1
2a	6.8	9.9	9.6	9.5	9.4	8.8	7.3
3a	7.9	12.2	10.2	10.3	9.3	10.2	8.1
4a	9	12.2	10.8	9.8	10.1	10.1	8
5a	8.4	11.2	10.1	9.9	8.3	9.9	7.5
6a	8.1	10.3	8.7	9.5	9.2	8.9	7.7
7a	7.8	9.5	8.8	9	8.4	8.5	7.9
8a	7.7	9.6	8	8.5	8.3	8.7	7.8
9a	6.8	10.6	8.7	9.5	8.2	8.8	7.1
10a	7.1	9.6	9.3	7.8	8.2	7.8	7.2
11a	6.7	8.3	8	8.3	7.5	7.7	7.2
12p	7.5	6.7	7.2	7.3	7.8	7.7	7.3
1p	6.9	7.2	7.3	6.9	6.6	6.2	6.8
2p	5.8	5.9	6.4	5.3	6.7	6.3	6.1
3p	5.7	5.4	6.1	4.9	5.3	5.4	5.5
4p	4.4	4.7	4	4.9	4.6	4.6	5
5p	4.1	3.6	3.3	2.8	3.5	3.5	3.7
6p	3.2	3.1	2.8	2.7	3.1	3	2.9
7p	2.7	2.4	2.4	2.5	2.6	2.6	2.9
8p	2.5	2.4	2.3	2.1	2.5	2.3	2.8
9p	2.5	2.7	2.3	2.4	2.4	2	2.3
10p	3.6	2.7	2.3	2.1	2.1	2.3	2.2
11p	2.8	3.4	2.6	2.8	2.3	2.6	2.9

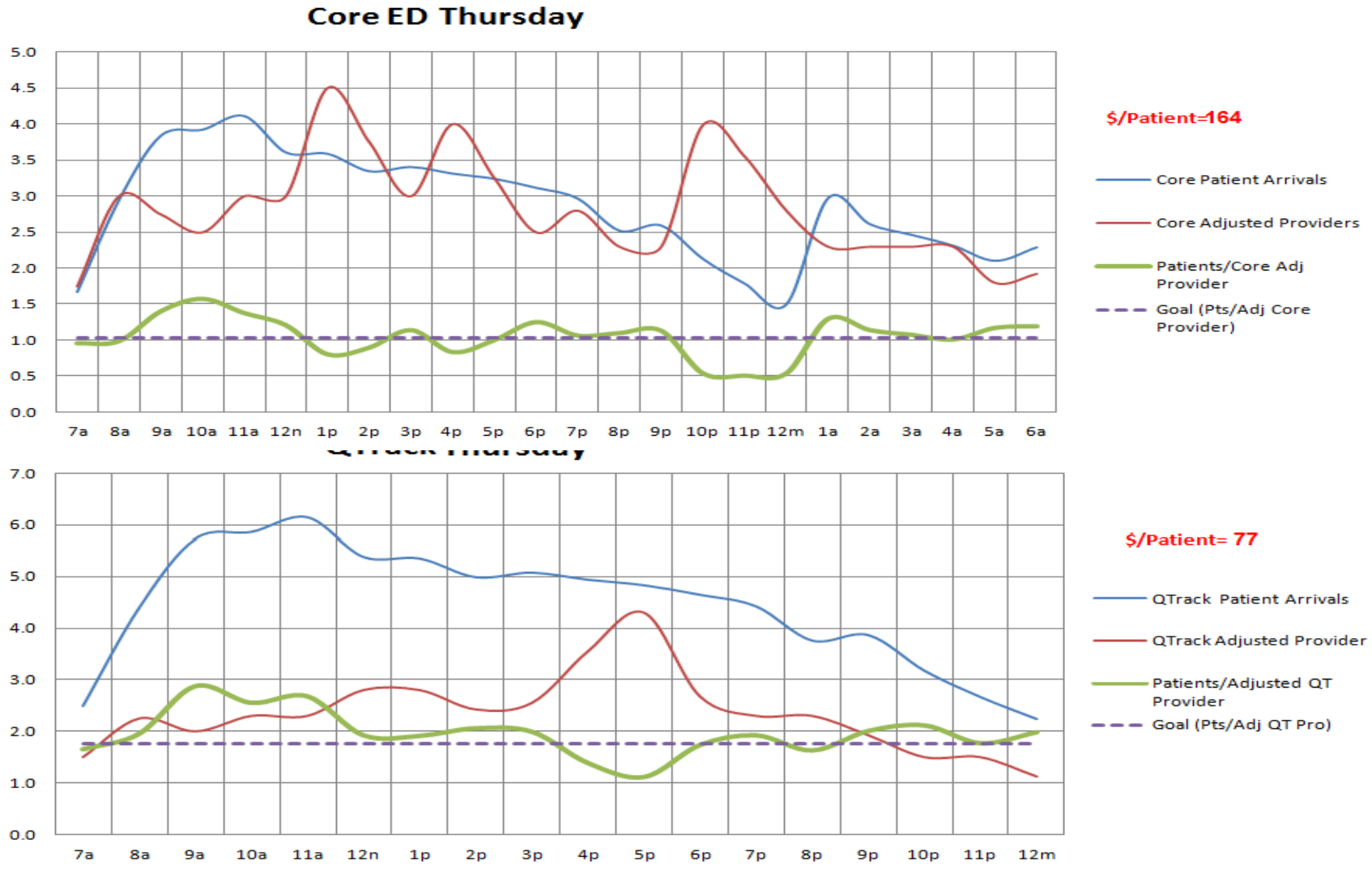
Intrigma Cost Optimizer©



Intrigma Cost Optimizer©

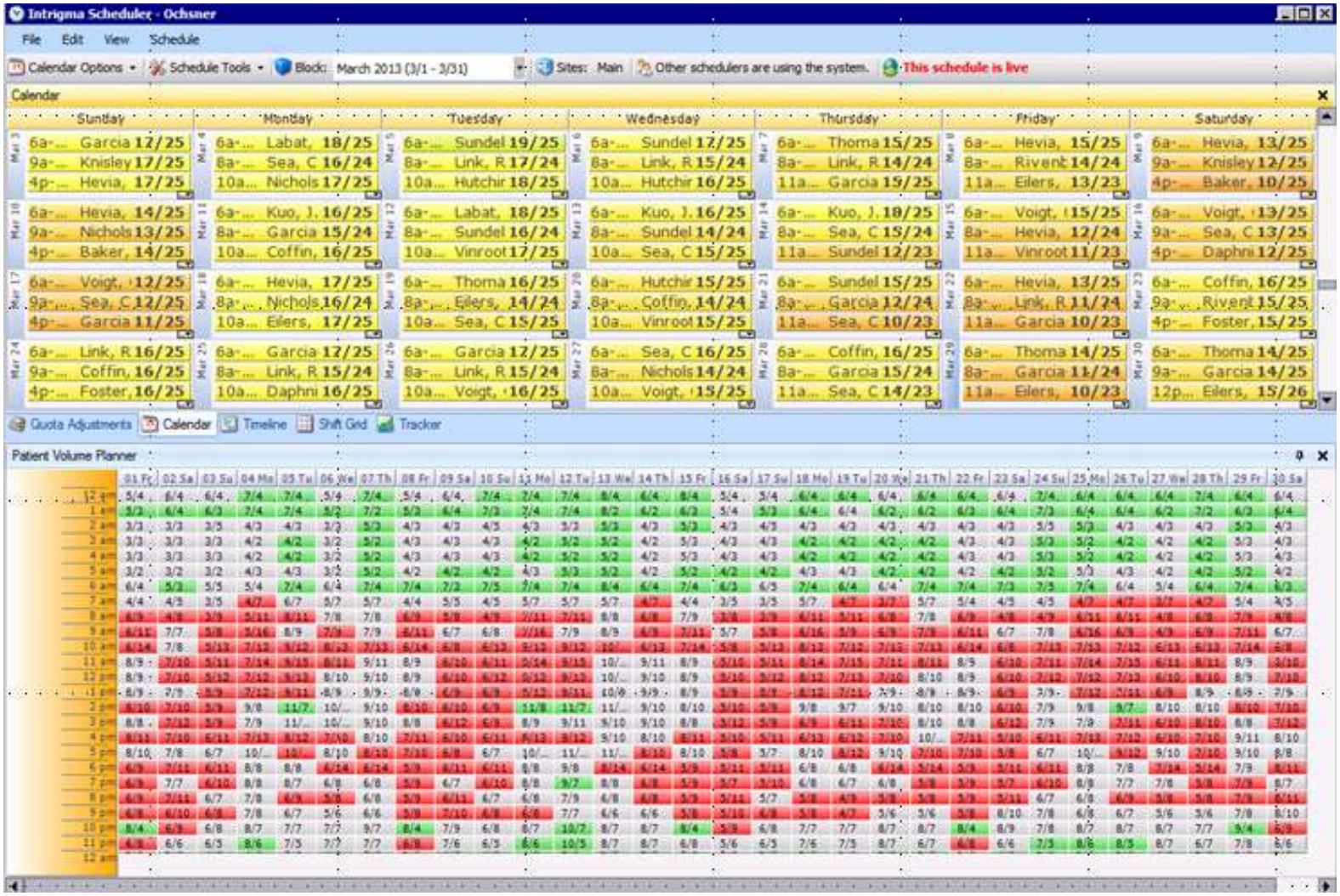


Intrigma Cost Optimizer©

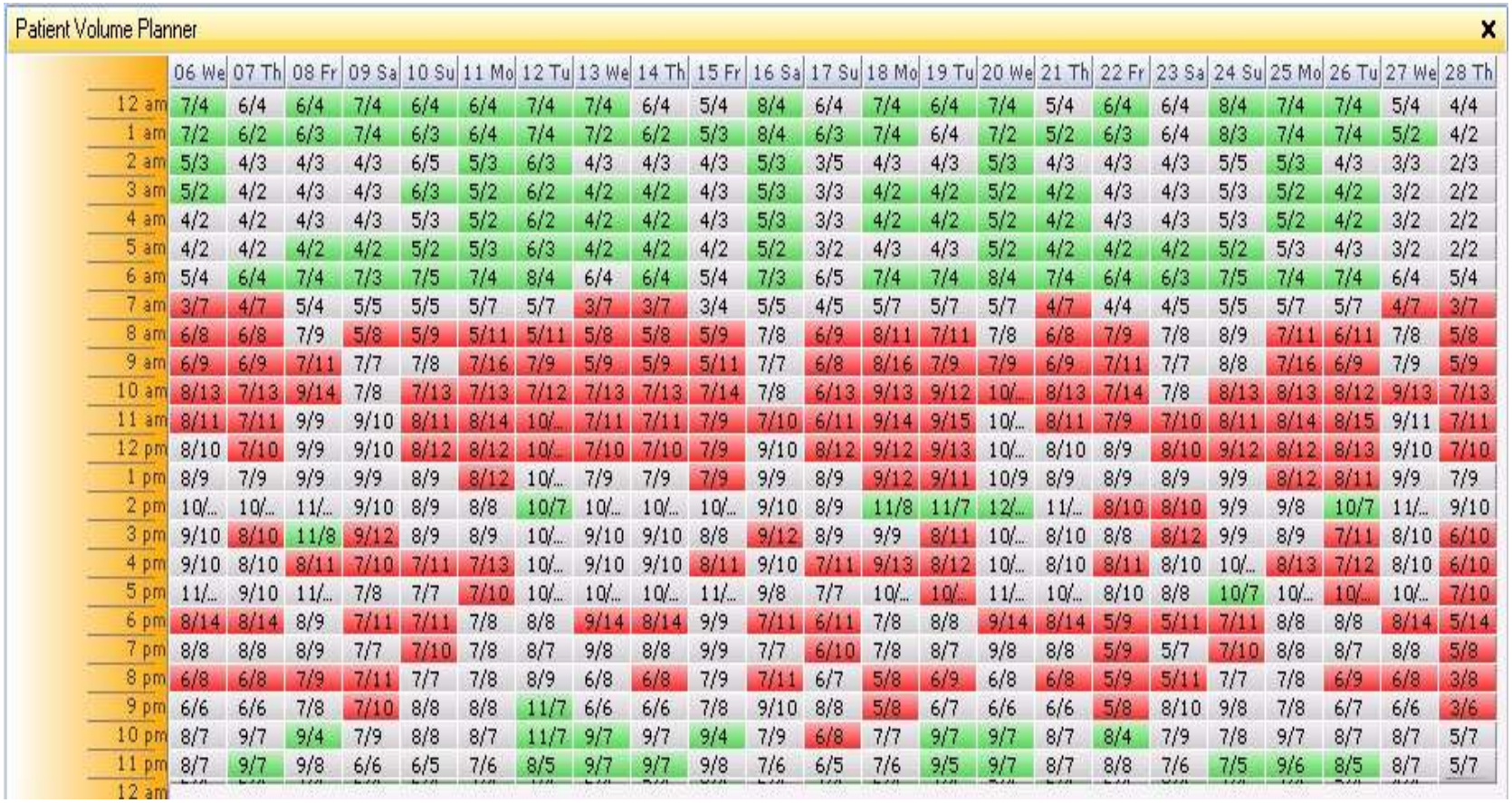


Intrigma Productivity Optimizer©

Intrigma Productivity Optimizer©



Intrigma Productivity Optimizer©



Patient Volume Planner

	06 We	07 Th	08 Fr	09 Sa	10 Su	11 Mo	12 Tu	13 We	14 Th	15 Fr	16 Sa	17 Su	18 Mo	19 Tu	20 We	21 Th	22 Fr	23 Sa	24 Su	25 Mo	26 Tu	27 We	28 Th
12 am	7/4	6/4	6/4	7/4	6/4	6/4	7/4	7/4	6/4	5/4	8/4	6/4	7/4	6/4	7/4	5/4	6/4	6/4	8/4	7/4	7/4	5/4	4/4
1 am	7/2	6/2	6/3	7/4	6/3	6/4	7/4	7/2	6/2	5/3	8/4	6/3	7/4	6/4	7/2	5/2	6/3	6/4	8/3	7/4	7/4	5/2	4/2
2 am	5/3	4/3	4/3	4/3	6/5	5/3	6/3	4/3	4/3	4/3	5/3	3/5	4/3	4/3	5/3	4/3	4/3	4/3	5/5	5/3	4/3	3/3	2/3
3 am	5/2	4/2	4/3	4/3	6/3	5/2	6/2	4/2	4/2	4/3	5/3	3/3	4/2	4/2	5/2	4/2	4/3	4/3	5/3	5/2	4/2	3/2	2/2
4 am	4/2	4/2	4/3	4/3	5/3	5/2	6/2	4/2	4/2	4/3	5/3	3/3	4/2	4/2	5/2	4/2	4/3	4/3	5/3	5/2	4/2	3/2	2/2
5 am	4/2	4/2	4/2	4/2	5/2	5/3	6/3	4/2	4/2	4/2	5/2	3/2	4/3	4/3	5/2	4/2	4/2	4/2	5/2	5/3	4/3	3/2	2/2
6 am	5/4	6/4	7/4	7/3	7/5	7/4	8/4	6/4	6/4	5/4	7/3	6/5	7/4	7/4	8/4	7/4	6/4	6/3	7/5	7/4	7/4	6/4	5/4
7 am	3/7	4/7	5/4	5/5	5/5	5/7	5/7	3/7	3/7	3/4	5/5	4/5	5/7	5/7	5/7	4/7	4/4	4/5	5/5	5/7	5/7	4/7	3/7
8 am	6/8	6/8	7/9	5/8	5/9	5/11	5/11	5/8	5/8	5/9	7/8	6/9	8/11	7/11	7/8	6/8	7/9	7/8	8/9	7/11	6/11	7/8	5/8
9 am	6/9	6/9	7/11	7/7	7/8	7/16	7/9	5/9	5/9	5/11	7/7	6/8	8/16	7/9	7/9	6/9	7/11	7/7	8/8	7/16	6/9	7/9	5/9
10 am	8/13	7/13	9/14	7/8	7/13	7/13	7/12	7/13	7/13	7/14	7/8	6/13	9/13	9/12	10/...	8/13	7/14	7/8	8/13	8/13	8/12	9/13	7/13
11 am	8/11	7/11	9/9	9/10	8/11	8/14	10/...	7/11	7/11	7/9	7/10	6/11	9/14	9/15	10/...	8/11	7/9	7/10	8/11	8/14	8/15	9/11	7/11
12 pm	8/10	7/10	9/9	9/10	8/12	8/12	10/...	7/10	7/10	7/9	9/10	8/12	9/12	9/13	10/...	8/10	8/9	8/10	9/12	8/12	8/13	9/10	7/10
1 pm	8/9	7/9	9/9	9/9	8/9	8/12	10/...	7/9	7/9	7/9	9/9	8/9	9/12	9/11	10/9	8/9	8/9	8/9	9/9	8/12	8/11	9/9	7/9
2 pm	10/...	10/...	11/...	9/10	8/9	8/8	10/7	10/...	10/...	10/...	9/10	8/9	11/8	11/7	12/...	11/...	8/10	8/10	9/9	9/8	10/7	11/...	9/10
3 pm	9/10	8/10	11/8	9/12	8/9	8/9	10/...	9/10	9/10	8/8	9/12	8/9	9/9	8/11	10/...	8/10	8/8	8/12	9/9	8/9	7/11	8/10	6/10
4 pm	9/10	8/10	8/11	7/10	7/11	7/13	10/...	9/10	9/10	8/11	9/10	7/11	9/13	8/12	10/...	8/10	8/11	8/10	10/...	8/13	7/12	8/10	6/10
5 pm	11/...	9/10	11/...	7/8	7/7	7/10	10/...	10/...	10/...	11/...	9/8	7/7	10/...	10/...	11/...	10/...	8/10	8/8	10/7	10/...	10/...	10/...	7/10
6 pm	8/14	8/14	8/9	7/11	7/11	7/8	8/8	9/14	8/14	9/9	7/11	6/11	7/8	8/8	9/14	8/14	5/9	5/11	7/11	8/8	8/8	8/14	5/14
7 pm	8/8	8/8	8/9	7/7	7/10	7/8	8/7	9/8	8/8	9/9	7/7	6/10	7/8	8/7	9/8	8/8	5/9	5/7	7/10	8/8	8/7	8/8	5/8
8 pm	6/8	6/8	7/9	7/11	7/7	7/8	8/9	6/8	6/8	7/9	7/11	6/7	5/8	6/9	6/8	6/8	5/9	5/11	7/7	7/8	6/9	6/8	3/8
9 pm	6/6	6/6	7/8	7/10	8/8	8/8	11/7	6/6	6/6	7/8	9/10	8/8	5/8	6/7	6/6	6/6	5/8	8/10	9/8	7/8	6/7	6/6	3/6
10 pm	8/7	9/7	9/4	7/9	8/8	8/7	11/7	9/7	9/7	9/4	7/9	6/8	7/7	9/7	9/7	8/7	8/4	7/9	7/8	9/7	8/7	8/7	5/7
11 pm	8/7	9/7	9/8	6/6	6/5	7/6	8/5	9/7	9/7	9/8	7/6	6/5	7/6	9/5	9/7	8/7	8/8	7/6	7/5	9/6	8/5	8/7	5/7
12 am																							