

# Introduction to Sites of Care

# Different care settings meet variety of patient needs

## Hospital



- Community hospital
- Academic Medical Center (AMCs)
- Emergency departments (EDs)

## Ambulatory Facility



- Physician offices
- Multispecialty clinics
- Retail clinics
- Urgent care centers
- Imaging centers
- Ambulatory surgery centers (ASCs)

## Post-Acute



- Skilled nursing facilities (SNFs)
- Inpatient rehabilitation facilities (IRFs)
- Long-term acute care hospitals (LTACHs)
- Home health agencies (HHAs)
- Hospice care

## Community



- Remote consultations
- Telemedicine services
- E-visits
- Smart phone apps
- Web-based health portals
- Remote monitoring devices and services

# Hospitals provide acute, inpatient care

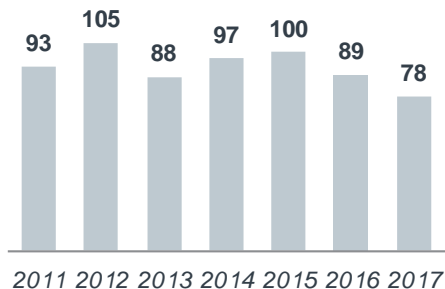
## Top ten 2017 inpatient procedures

| Service Line     | Procedure                       | 2017 Volume |
|------------------|---------------------------------|-------------|
| Neonatology      | Normal new born                 | 2,646,467   |
| Obstetrics       | Delivery without complications  | 2,201,175   |
| General Medicine | Psychiatry                      | 1,278,462   |
| Orthopedics      | Joint replacement               | 980,697     |
| General Medicine | Sepsis                          | 876,388     |
| Obstetrics       | C-Section without complications | 811,096     |
| Neonatology      | Neonate with major problems     | 765,368     |
| General Medicine | Esophagitis                     | 671,533     |
| Obstetrics       | C-Section with complications    | 524,299     |
| General Medicine | Cellulitis                      | 476,066     |

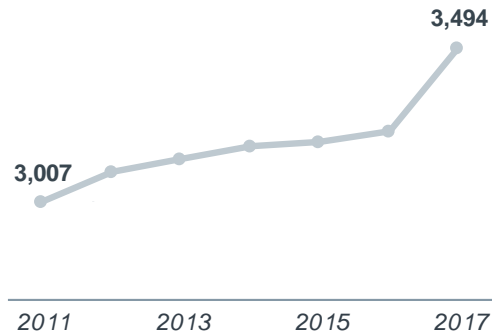
# M&A<sup>1</sup> activity is swallowing standalone hospitals

Number of hospitals in health systems is large and growing

**Hospital M&A activity**  
*Total deal volume*



**Number of community hospitals part of a health system, 2011-2017**



1) Mergers and Acquisitions

# Outpatient care sites offer lower-acuity care

## Outpatient sites of care



HOPD<sup>1</sup>



ASC



MOB<sup>2</sup>



Urgent care



Convenient care clinic

## Top ten 2017 outpatient procedures

| Service Line                    | Procedure                     | 2017 Volume |
|---------------------------------|-------------------------------|-------------|
| Evaluation and Management       | Evaluation and management     | 766,641,059 |
| Lab                             | Organ/disease panel           | 107,334,748 |
| Physical Therapy/Rehabilitation | Chiropractic manipulation     | 95,770,840  |
| Psychiatry                      | Psychotherapy                 | 84,712,851  |
| Miscellaneous Services          | Immunization administration   | 68,950,459  |
| Lab                             | Chemistry                     | 66,764,837  |
| Evaluation and Management       | Emergency department services | 61,725,114  |
| Cardiology                      | Electrocardiogram             | 50,505,697  |
| Radiology                       | Musculoskeletal X-ray         | 49,335,183  |

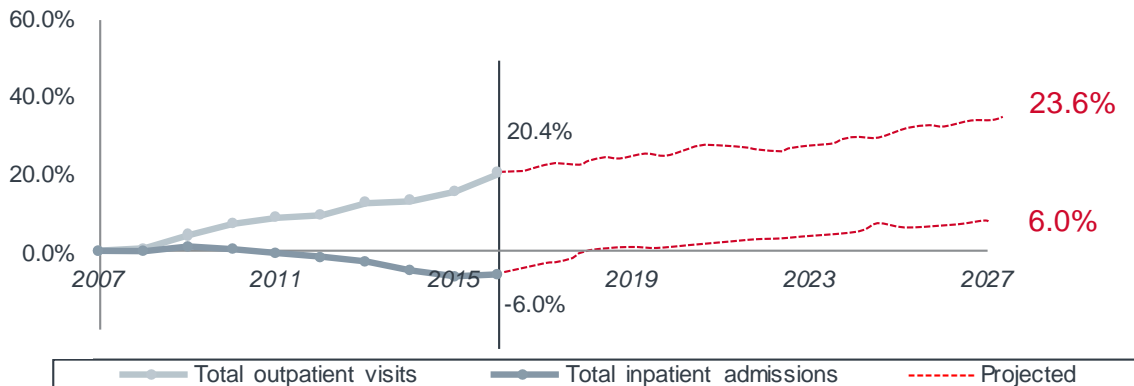
1) Hospital outpatient department

2) Medical office building

# Outpatient volumes surge as inpatient volumes stagnate

## Change in hospital outpatient visits and inpatient admissions

2007–2027



### CEO Priorities for 2018

Ranked out of 26 priorities

**1st**

Outpatient Procedural  
Market Share

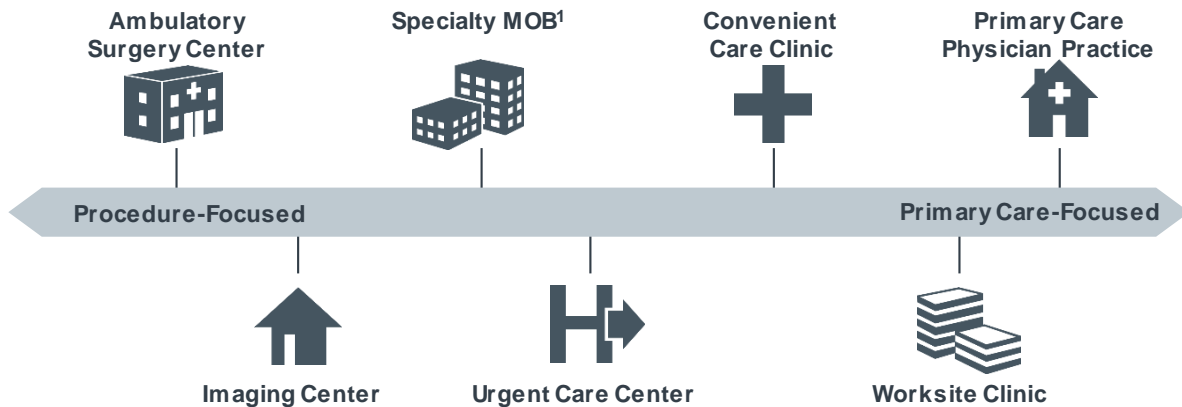
**18th**

Inpatient Procedural  
Market Share

# Health systems growing networks to meet demand

A variety of ambulatory sites cater to consumer needs

## Components of ambulatory network



1) Medical office building.

# Other competitors helping meet demand for OP care

Retail clinics and independent ASCs are a rapidly growing market

## Estimated total number of retail clinics in the US

2006-2017<sup>1</sup>



## Major operators



Source: "Retail Medical Clinics: From Foe to Friend?," Accenture, 2013, available at [https://www.accenture.com/\\_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub\\_21/Accenture-Retail-Medical-Clinics-From-Foe-to-Friend.pdf](https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Dualpub_21/Accenture-Retail-Medical-Clinics-From-Foe-to-Friend.pdf); "Number of U.S. Retail Health Clinics Will Surpass 2,800 by 2017, Accenture Forecasts," Accenture, November 2015, available at <https://newsroom.accenture.com/news/number-of-us-retail-health-clinics-will-surpass-2800-by-2017-accenture-forecasts.htm>; Ritchie J., "After a Stall, Kroger Could Add Clinics," Cincinnati Business Courier, July 5, 2013, available at <http://www.bizjournals.com/cincinnati/news/2013/07/05/after-a-stall-kroger-could-add-clinics.html>; Robeznieks A, "Retail Clinics at Tipping Point," Modern Healthcare, May 4, 2013, available at <http://www.modernhealthcare.com/article/20130504/MAGAZINE/305049991>; Advisory Board research and analysis.

<sup>1</sup> 2015-2017 numbers projected; 1,914 clinics as of November 2015; actual growth trajectory depends on preferred payer relations, PCP capacity, and health system partnerships.



# Patients discharged to range of post-acute settings

## Relationship between acute and post-acute providers

### Long-Term Acute Care Hospital (LTACH)

- For patients in need of ongoing acute care services
- Primary services include ventilators and wound care



### Acute Care Hospital



### Inpatient Rehab Facility (IRF)

- Occupational and physical rehabilitation
- Mix shifting from orthopedic to neurological patients

### Skilled Nursing Facility (SNF)

- Primarily for orthopedic/neurological rehabilitation and the chronically ill



### Home Health Agency (HHA)

- Assistance with daily living activities, but limited clinical support
- Primarily for the elderly and the chronically ill



### Hospice

- Primarily for terminal cancer, Alzheimer's and COPD patients
- Palliative, not curative; most care delivered at home
- Not considered PAC<sup>1</sup> by Medicare
- Dominated by local, faith-based non-profit agencies
- Many HHAs provide hospice care

1) Post-acute care.

# PAC providers face financial challenges ahead

## High PAC costs trigger cost-containment initiatives

### Post-Acute Payment and Utilization Disruption



- Medicare and Medicaid efforts to reduce payment and rein in expenditures underway
- Emphasis on linking reimbursement to quality metrics and patient outcomes, jeopardizing operating margins
- Growth of risk-based delivery models such as bundled payments and ACOs<sup>1</sup>

### Narrowing Referral Networks



- Hospitals paying increased attention to post-discharge care
- Care management leaders seeking to standardize PAC performance measurement, forge affiliation agreements
- PAC providers adding elements of the continuum to become “one stop shop” for referrals

### Complex, Demanding Patient Population



- Burden of chronic disease and greying population driving cost growth
- Expanding Medicare beneficiaries intensifying utilization, raising acuity levels
- Baby Boomers demanding new post-acute care models, amenities and services

<sup>1</sup>) Accountable care organizations.

# Community health uses tech to facilitate direct care

New unparalleled ability to treat patients in their homes

**Telehealth** represents the interactive, electronic exchange of information for the purpose of diagnosis, intervention, or ongoing care management between a patient and/or health care providers situated remotely.

## Patient-to-Provider



E-visits



Wearables



Secure messaging

## Telehealth Modalities

Real-time  
virtual visits

Remote patient  
monitoring

Asynchronous  
store-and-forward

## Provider-to-Provider



E-consults



Second opinion consults

# New care-at-home capabilities on the horizon

## Innovative use of technology promising for diagnosis and treatment

| Established  | Technology Feature  | Function   | Example Use   |
|--------------|---|--|---|
|              | <ul style="list-style-type: none"> <li>• Camera</li> <li>• Video</li> <li>• Bluetooth peripherals</li> </ul>                              | <ul style="list-style-type: none"> <li>• Image capture</li> <li>• Audio-visual conferencing</li> <li>• Manual biometric data collection</li> </ul> | <ul style="list-style-type: none"> <li>• Teledermatology store-and-forward</li> <li>• Primary and urgent care virtual visits</li> <li>• Monitoring CHF and COPD patients</li> </ul> |
|              | <ul style="list-style-type: none"> <li>• Smartphone or wearable-based sensors</li> <li>• Ingestible sensors</li> </ul>                    | <ul style="list-style-type: none"> <li>• Manual and automatic biometric data collection</li> <li>• Automatic biometric data collection</li> </ul>  | <ul style="list-style-type: none"> <li>• Monitoring heart rate, steps, food intake,</li> <li>• Digestible pill for tracking medication adherence</li> </ul>                         |
|              | <ul style="list-style-type: none"> <li>• Artificial intelligence and machine learning</li> <li>• Virtual and augmented reality</li> </ul> | <ul style="list-style-type: none"> <li>• Diagnosis and treatment recommendations</li> <li>• Simulated therapy</li> </ul>                           | <ul style="list-style-type: none"> <li>• Imaging interpretations</li> <li>• Chat bot for mental health</li> <li>• Provider training</li> <li>• Tele-rehabilitation</li> </ul>       |
| Emerging     |   |  |   |
| Experimental |   |  |   |

# More in the series on providers and sites of care

## Two-part webconference series on the basics of care delivery



Introduction to  
Sites of Care

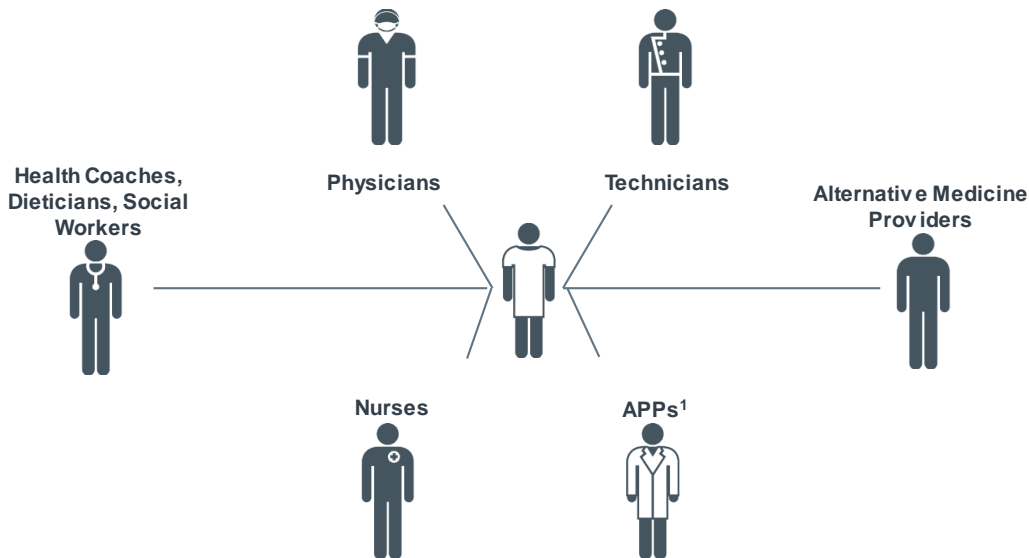


Introduction to  
Caregivers

# Introduction to Caregivers

# Patients interact with a variety of caregivers

Both physicians and non-physicians involved in an episode of care



1) Advance practice providers.

# Two major categories of physicians

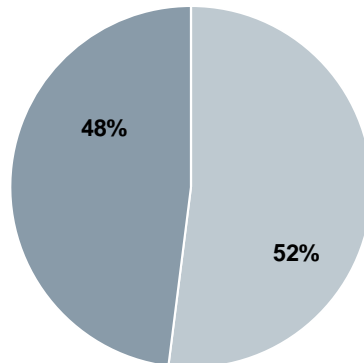
Even split between number of PCPs<sup>1</sup> and Specialists

## Breakdown of PCPs vs. Specialists

2018

### PCPs

- Generalists
- Typically internists, family practitioners, pediatricians
- First line of defense
- Provide routine care, prevention and screening, as well as chronic disease management



### Specialists

- Narrow areas of expertise
- Often sub-classified into medical specialists, proceduralists, and hospital-based specialists
- Patients often come from PCP referrals
- Provide advanced diagnostics, treatment (including surgery), and ongoing management for acute, rare, or complex conditions

1) Primary care physician.



# There are many different types of specialists

## Three common sub-categories of specialists

### Medical Specialists



- Cardiologists
- Endocrinologists
- Gastroenterologists
- Nephrologists
- Pulmonologists
- Neurologists
- Medical Oncologists

### Procedural Specialists



- General Surgeons
- Orthopedic Surgeons
- Cardiothoracic Surgeons
- Neurosurgeons
- Trauma Surgeons
- Vascular Surgeons
- Plastic Surgeons

### Hospital-Based Specialists



- Anesthesiologists
- Radiologists
- Pathologists
- Hospitalists
- Intensivists
- Neonatologists
- Emergency Physicians

## Interventionalists: another subset of specialists

### Interventional Cardiologists

- *Focus on diagnosis and chronic disease management*
- *Many supplement income with ancillary revenue*

### Interventional Neurologists

- *Focus on procedural revenue, throughput*
- *Hospitals depend on them for profitable referrals*

### Interventional Radiologists

- *Majority of time in hospital, not physician office*
- *Hospitals often employ or contract for services*

# Three most common types of physician employment models

## Physician practice business models

### Independent

- Physicians own their own practice
- "Eat what you kill" entrepreneurial incentives: responsible for practice profit & loss
- Single or multi-specialty
- Small or large group models

### Employed by hospital

- Physicians practice at hospital where they are employees or salaried contractors
- Typically applies to hospital-based physicians such as anesthesiology, emergency, pathology
- Hospital does not own practice assets

### Employed by hospital-owned practice

- Physicians receive salary or incentive-based compensation from hospital that owns their practice
- Hospital manages practice and (usually) owns practice assets
- PCPs and specialists

# Physician employment a growing trend

## Physicians by practice settings, 2016

*On their own*

**17%** solo practice owners

*In groups*

**23%** Employees of hospital-owned group

**34%** Hospital employees

## Physician concerns about independence



Business expenses



Managed care



EHR requirements



## New physicians prefer employment

**75%**

Final year medical residents who would prefer employment by hospital, medical group, or outpatient clinic

**1%**

Final year medical residents who would prefer solo practice

Source: "2016 Survey of America's Physicians: Practice Patterns & Perspectives", *The Physicians Foundation*, available at <https://physiciansfoundation.org/research-insights/physician-survey>; "2017 Survey: Final-Year Medical Residents," *Merritt Hawkins*, available at <http://www.merrithawkins.com>; Advisory Board research and analysis.

# Non-physician practitioners at front lines of care

Nurses and physician assistants play important roles

## Nurses



- Provide wide variety of patient care services in ambulatory, inpatient, and post-acute settings:
  - Registered Nurse (RN)
  - Licensed Practical Nurse (LPN): works under RN or MD supervision

## APPs<sup>1</sup>



- Trained and licensed to practice medicine with limited physician supervision
- May examine patients, diagnose and treat illnesses, order tests, counsel on prevention, write prescriptions
- Require two years of post-secondary education
- Nurse Practitioner (NP): RN with master's degree
- Physician Assistant (PA): medical professional practicing under a physician

1) Advanced practice providers.

# Non-physician practitioners at front lines of care

## Technicians and other caregivers key to care delivery

### Technicians



- Conduct a variety of tests/support functions:
  - Lab Technicians: draw and test blood/fluids
  - Radiology Technologists: Perform ultrasounds, CT, MRI
  - CV<sup>1</sup> Technicians: conduct CV scans such as EKGs
  - Dialysis Technicians: operate dialysis equipment
- Requires high school diploma plus trade certification; some also require associate's degree

### Others



- Includes expanding set of caregivers and support service providers:
  - Alternative medicine: chiropractors, acupuncturists, massage therapists
  - Rehabilitation: physical therapy, occupational therapy, speech therapy
  - Social workers, nutritionists, health coaches, navigators

1) Cardiovascular

# More in the series on providers and sites of care

## Two-part webconference series on the basics of care delivery



Introduction to  
Sites of Care



Introduction to  
Caregivers



2445 M Street NW, Washington DC 20037  
1-202-266-5600 | [advisory.com](https://www.advisory.com)