HEALTHCARE INTERVIEW PREP GUIDE BOOTCAMP

January 12, 2016
AGENDA

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HEALTHCARE INDUSTRY OVERVIEW
### Major Healthcare Industry Players

There are many different segments of the healthcare market such as those listed below:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providers</td>
<td>Hospitals, medical groups, and clinics that deliver care to patients</td>
</tr>
<tr>
<td>Insurers / Payers</td>
<td>Public and private insurance that pays for a portion of healthcare</td>
</tr>
<tr>
<td>Employers</td>
<td>Companies that sponsor healthcare insurance plans and oversee the insurers</td>
</tr>
<tr>
<td>Pharma / Biotech</td>
<td>Pharmaceutical, biotech, and related life sciences companies that develop drug treatments</td>
</tr>
<tr>
<td>Medical Devices</td>
<td>Companies that develop medical devices and other high technology products</td>
</tr>
<tr>
<td>Government / Policy Makers</td>
<td>Federal, state, and local organizations that regulate and interact with healthcare industry</td>
</tr>
<tr>
<td>Start Ups</td>
<td>Smaller, younger companies with new innovative products and services</td>
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Will do deeper-dive
The healthcare industry is rapidly changing, and below are several of the top trends in healthcare today.

**Accountable Care Act**
Passed into law in 2010 and led to significant changes in promoting increased quality, access, and affordability to healthcare coverage.

**Value-Based Care**
Emphasis on creating value (outcomes over cost) and not just churning volume in healthcare.

**Big Data and Analytics**
More health data through electronic health records and mobile platforms to create massive databases and the need for more predictive analytics.

**Integration and Consolidation**
Increased mergers and acquisitions, as well as integration of previously separate segments (e.g. providers and plans).

Several overarching trends impact all segments of the healthcare industry.

Relevant reports:
Top Health Industry Issues of 2016; December 2015; pWc Health Research Institute Healthcare and Life Sciences 2020 Predictions; December 2014; Deloitte Center for Health Solutions.
The Affordable Care Act was signed into law in 2010 with the goal of expanding coverage, controlling costs and improving healthcare delivery. The key provisions of the law are as follows:

- Individual mandate
- Employer requirement to offer coverage (if 50+ employees)
- Expansion of public programs including Medicare and Medicaid (CMS)
- Premium and cost sharing subsidies to individuals
- Fees on pharmaceutical, medical device and insurance sectors
- Creation of state-based exchanges
- Essential benefits packages
- Changes to private insurance – MLR, dependent coverage, pre-existing conditions
- Creation of ACOs

Constitutionality / Political Challenges to ACA: Since its enactment various components of the ACA have been brought before the supreme court and/or been subject to political scrutiny.

Emphasis on spending: Across the industry there has been increased emphasis on reducing unnecessary spending.

High priced drugs: Increasing attention has been given to drug costs starting with Solvadi and now with Shkreli.

MLR: Limits the portion of premium dollars health insurers may spend on administration, marketing, and profits.

Exchange: State-based or federally operated online marketplace where individuals can purchase health insurance.

ACO: An ACO is a network of doctors and hospitals that shares financial and medical responsibility for providing coordinated care to patients in hopes of limiting unnecessary spending.
# Payers

## Overview

- In the US, the breakdown in insurance coverage is as follows:
  - 49% Employer
  - 19% Medicaid, 13% Medicare
  - 8% Other public / non-group
  - 10% Uninsured
- Individuals with insurance coverage will typically have a deductible, copayment or coinsurance policies
- Plan offerings often take the form of:
  - PPO / EPO (fee for service payments)
  - HMO (capitated payments)
  - POS
- Payers include: UnitedHealthcare, Aetna, Anthem, BCBS and smaller regional payers
- Cost drivers: health expenditures, population demographics, regulations, administrative fees
- Revenue drivers: premiums

## Trends

- **M&A**: resulting in more efficient operations, stronger bargaining power and better clinical management
- **Vertical integration of payers and providers**: examples include Kaiser, Intermountain Healthcare, Cleveland Clinic
- **Consumerism**: in healthcare, driven by increased access to information
- **HDHP**: Health plans with high deductibles are becoming increasingly prevalent affecting consumption trends

## Key Terms

- **Medicaid**: State provided coverage for low-income families
- **Medicare**: Coverage for individuals 65+ provided by the federal government
- **Deductible**: Minimum amount that must be paid prior to insurance coverage “kicking in”
- **Premium**: Amount paid by an individual for a health insurance plan. Part may be shared by an employer
PROVIDERS

Overview

- Organization or individual that is deemed capable of providing health care services e.g., clinician, hospital, clinic, or group of healthcare professionals
- Industry of consolidation: Stand-alone / independent vs networks/groups: Stand-alone hospitals and practices (not operating under control of another system/entity) are getting more difficult to sustain
- Hospital players: Community Health Systems (national chain of community hospitals), Kaiser Permanente (managed care org), AMCs
- Players targeted at specific customer segments: Davita (CKD patients), “Minute Clinics” (patients needing primary care e.g., health screenings, shots)
- Cost and Revenue drivers: contracts negotiated with payers, patient demographic, and prescribing habits

Trends

Emergence of new players: Specifically those targeted at primary care or chronic disease management: CVS Minute Clinics, Walgreens HealthClinics, home care providers

New innovative payment models: Working with payers or CMS to test new payment model such as bundled payments for select services

Consolidation and new forms of partnership (ACO, ‘affiliations’)

Importance of “Managed Care”: Definition can vary make sure you do research / ask around e.g., the group that manages relationships / negotiates w/ payers or team that works with other providers and payers on strategies to better manage patients and control costs

Key Terms

AMC (Academic medical center): Hospitals part of an academic institution and will have a training/research mission as well as clinical. AMCs tend to care for patients with greater complications / severity of disease e.g., NMH, UCM

Medical Groups: The network of physicians (often distinguished from the hospital facilities, nurses, and staff)

Inpatient Care: Medical care where a patient is admitted to the hospital

Outpatient Care: Medical care or treatment that does not require an overnight stay (e.g. ER, clinic etc.)
Drug development (i.e. from research to FDA approval) typically takes 13-16 years and can cost up to $1B

- Discovery/Pre-Clinical: scientific process of finding targets, screening compounds, and testing products in in-vitro and in-vivo models
- Typical product life cycle: Development → Testing → Regulatory → Commercialization

Development Phases:
- Phase 1: Small “First in Man” studies of products usually on a small scale designed to assess safety
- Phase 2: Larger studies meant to assess efficacy of product
- Phase 3: Very large trials designed to assess safety and efficacy in large populations
- Phase 4: Post-approval studies to broaden indication or otherwise amend approved labeling

Drug pricing is leading to a growing conflict between access to medicines and affordability

Biosimilars: Becoming a larger player in pharma as an alternative to branded and generic drugs

M&A: Allergan $66B acquisition of Actavis, Failed $118B takeover of AstraZeneca by Pfizer, Pfizer looking to acquire Allergan for $160B

More frequent product launches: IMS Health claims ~200 new drugs are forecast for launch in next 5 years

IND: Investigational New Drug, these are given to products that are not approved for use but have been approved for testing

In-vivo: testing, usually in animals, to determine potential effects on people

PBM: Pharmacy Benefit Manager. Third party administrator of prescription drug programs

Key Terms:

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Medical Devices

Overview

- Medical Devices are grouped into the following classification categories:
  - Class 1: Simplest type, require registration with the FDA. Examples: tongue depressors, bandages, exam gloves.
  - Class 2: Non-invasive, require additional labeling, performance controls, assurance they will not cause injury or harm to the patient. Examples: X-ray machines, wheelchairs, infusion pumps, surgical needles.
  - Class 3: Require premarket approval involving clinical trials to ensure device’s safety and efficacy. Examples: heart valves, breast implants, pacemakers.
- Regulatory process depends on the class and the regulatory pathway (510(k) and PMA)
- For a PMA, you typically will do an IDE to start a clinical trial, then submit your clinical trial results in the PMA.
- Once you have a 510 (k) or PMA approval you are cleared to sell your device in the U.S.

Trends

Interoperability of devices: There is a move towards increased sharing of information across medical devices and Electronic Health Records (EHRs)

Focus on Globalization: Growth in emerging markets has led to an emphasis on frugal innovation and M&A by big players to expand geographic reach into markets such as India, China, and Brazil

Key Terms

510 (k): Regulatory submission to the FDA where the device is equivalent to a commercially available device. Significantly faster time to market than PMA devices

IDE: Investigational Device Exemption, these are given to products that are not approved for use but have been approved for testing

PMA: Pre-Market Approval Regulatory submission. This approval process is generally reserved for high-risk medical devices and involves a more rigorous premarket review than the 510(k) pathway

CE Mark: Approval required to market devices in Europe

Verification and Validation (V&V): Testing required in order to confirm device meets specifications and intended use
COMPANY EXPECTATIONS AND PREP RESOURCES
# What Recruiters are Looking For

<table>
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<tr>
<th>Elements</th>
<th>Details</th>
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<tbody>
<tr>
<td>1. Passion for industry</td>
<td>• Pharma/biotech/med device/services</td>
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<tr>
<td></td>
<td>• Be ready for “why med dev, not pharma”</td>
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<tr>
<td>2. Passion for company</td>
<td>• Understand company, main products, locations</td>
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<td></td>
<td>• Do your research! Quarterly reports often breakdown business in how company thinks about itself. Talking to representatives at companies shows interest and may give “insider” insights</td>
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<tr>
<td>3. Fit for industry</td>
<td>• Ex-consultants: Be prepared for “why industry”</td>
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<td></td>
<td>• Ethics, comfort with ambiguity, cross-functional experience, focus on quality</td>
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<td>4. MBA skills</td>
<td>• Teamwork, leadership, ability to influence, communication</td>
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Demonstrate these to the extent possible through resume, cover letter and interview

Note: See Page 4 IPG book for more details
INTERVIEW PREPARATION: INDUSTRY KNOWLEDGE

• What to familiarize yourself with
  — The major market dynamics. Come with a point of view
    ▪ Note: Some companies may care more about your industry knowledge compared to others – ask company reps / 2nd years about interviews
  — Common acronyms / terms (page 6-7, 24-25 of IPG guideline)
    ▪ 5 Ps: Patient, Physician, Payer, Provider, and Policy.
      Typically a company will need to have strategies in place to attack all five
  — Phases of pharma/med device/biotech development (high-level understanding of process, what governing bodies are involved, no need for details)
  — Key players in your industry

• Where else to look
  — Take advantage of HCC / HEMA events /programming, healthcare 101 resources through CMC, other industry publications (Kaiser Foundation, Greenhorn Guides, Advisory Board)
  — See IPG guidelines pages 5-8, 20-21 and 24-25 for more detail
CRAFTING YOUR HEALTHCARE STORY
**Most Important Pieces of Healthcare Story**

1. **Why healthcare**
   - How to translate past experience into a healthcare story
     - Leverage your healthcare background, past projects or relevant classes
     - Leverage personal stories (but keep it professional and make a point)

2. **Why this segment of healthcare**
   - Example reasons
     - Pharma: “I’m interested in the chemistry behind pharma, talking about how drugs interacts with systems within body really excites me”
     - Med device: “I like the idea of a tangible product and the pace - there is typically faster development process than pharma”
     - Providers: “I want to be closest to patient care as possible and enjoy working with clinicians. I see myself in hospital administration one day”

3. **Why this company**
   - Company culture, structure, opportunities (global, functional)
   - Example: “I like the length of Abbvie’s rotations which are 12-18 months. It’s a good timeframe to really grasp a subject well, and I’ve found this pretty unique to AbbVie.”

Hear sample story from a second year career-switcher
INTERVIEW PREP CASES AND QUESTIONS
OVERVIEW OF INTERVIEW PREP

• There are four main types of questions:
  — Fit
  — Behavioral
    ▪ By far most common
  — Industry
    ▪ More likely to get these if you are a career switcher
  — Cases
    ▪ Genentech, Anthem, Optum, CVS, Cigna, J&J (Medical Devices), Davita

• Overall format and types of questions vary greatly by company. To best Prepare:
  — Find 2nd years who worked at firms of interest and can give you overview of interviews
  — Company search on Intern-Net (CMC)
EXAMPLE BEHAVIORAL QUESTIONS

• Describe a time when you had to work through a particularly difficult situation with one of your teams.
• Tell me about a situation where you had to make a decision without all the necessary information.
• Tell me about a time you needed to influence people.
• Tell me about a time you worked through an ambiguous issue.

• Remember the STAR (Situation Task Action Result) Framework

• Common Mistakes:
  — Spending too much time describing the “situation”
  — Not including the result in the story
  — Saying “we” instead of “I” when describing the action taken
  — Telling a story that doesn’t really answer the interviewer’s question
  — Talking about how you “would” handle that situation or how you “generally” do, instead of giving a specific example

• See IPG guidelines pages 10-15 for more detail
EXAMPLE CASE QUESTIONS

You may encounter a case in your healthcare interviews. This could take the following forms:

1. **Mini verbal case**
   - Example 1: Tell me about a product you think is marketed well and why. Now imagine sales are declining for that product, what would be your next steps?
   - Example 2: How would you evaluate whether or not to develop a pipeline product? Walk me through your logic
   - Example 3: Sales of blood pressure monitors is increasing but profit margin is changing, diagnose the business issue
   - Example 4: How would you go about establishing a commercialization strategy for an EMR company

2. **Conventional verbal case**
   - Example 1: Establishing an Accountable Care Organization
   - Example 2: Launching a pharmaceutical product in a new market
   - Example 3: An integrated health system has been experiencing a decline in profitability, how would you diagnose this program?

3. **Written case**
HEALTHCARE CASE POINTERS

• Key points to remember in a healthcare case:
  — The end consumers of care are often not paying the complete cost of treatment
  — Regulatory concerns are paramount in any healthcare case
  — Patent protections in pharmaceuticals are limited to 15 to 20 years, and revenues would drop precipitously at the end of a product’s patent
  — Decision-making is often split between consumers and physicians meaning both stakeholders are critical in marketing efforts
  — If you have clarifying questions, don’t hesitate to ask your interviewer!
ADDITIONAL INTERVIEW RESOURCES

• Mock Interviews:
  — Greg Shipman
  — Morgan Clyburn
  — Xi (Sissi) Chen
  — Amanda Schmid

• Healthcare Case Prep:
  — Kendra Zehentbauer
  — Jack Baer
  — Michael Phillips
  — Jenn Whitley

• Industry Q&A:
  — Payer: Jenn Whitley
  — Provider: Kelly Donovan
  — US Policy: Jack Baer
  — Biotech: Arti Sanganeria
  — Pharma: Kendra Zehentbauer
  — Medical Devices: Morgan Clyburn
QUESTIONS?
EXAMPLE CASE
Our client is a small company that wants to expand its “Orphan Disease” business within the next five years.

How can the client double its business by growing its “Orphan Disease” business?

- The client’s current business is about 3B and is expected to grow by 3-5% per year.
- The orphan disease market is a $20B market.
- Expected success rates by phase are as follows:
  - Research: 10%
  - Phase 1: 30%
  - Phase 2: 50%
  - Phase 3: 70%
- Maximum expected revenue for a product is $600M in five years (10% in year 1, 20% in year 2, 50% in year 3, 70% in year 4, 100% in year 5).
## Exhibit 1: Assets in Development

<table>
<thead>
<tr>
<th>Phase</th>
<th># Assets</th>
<th>Time to Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>Phase 1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Phase 2</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Phase 3</td>
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</table>
The interview should start by acknowledging that there are two primary ways to grow the orphan disease business – organically or through acquisition.

Knowing this, the interviewee should then ask about the business including any assets in development.

- Current business is 3B growing at 3-5% for 5 years. (3B * 5% * 5) = 750 M
- Current assets in development are expected to yield 462 M
  - Phase 1 (4*30%*60)
  - Phase 2 (3*50%*120)
  - Phase 3 (1*70%*300)
- Total growth is expected to be 1.2B. This is a shortfall of 1.8B if the goal is to double the business.

Then, the interviewee should then calculate the number of assets that must be purchased to reconcile the shortfall.

- Phase 3 – x * 70% *600 * 50% = 1.8B
- The company would have to buy 9 phase 3 assets

Next steps:
- Sensitivity analysis at different growth rates
- Market assessment of phase 3 valuations