2009

Owens & Minor: Growth Plan for "Expansion" Products

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ROBINS School of Business

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This case was prepared from various referenced sources and was developed solely for classroom discussion; the case is not intended to serve as an endorsement, source of primary data or an illustration of either effective or ineffective handling of a business situation. The authors gratefully acknowledge information and insights provided by the following Owens & Minor executives - Mr. Mark Van Sumeran, Senior Vice President, Strategic Planning & Business Development, Mr. Paul Higday, Vice President, Program Development and Ms. Mondira Muldowney, Director, Clinical Products Marketing.

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INTRODUCTION

E. V. Clarke, the Executive Vice President, Distribution of Owens & Minor (O & M) faced a complex strategic challenge in 2009 – the organization and growth of the "Expansion" products business. This business comprised several existing product categories (Radiology – Contrast Media, Surgical Instruments, Electrosurgical, Endoscopy and Dialysis), in which O & M had a presence but lacked a clear cut growth strategy. Revenue growth in these categories had averaged 15% per annum from 2003 to 2008 without a customer focus; the growth had been achieved through supplying such products to existing customers through existing distribution channels.

Clarke projected that "Expansion" products in 2008 represented a $5b total market opportunity with Owens & Minor having sales of $412m or an approximate 8% market share. (See Exhibit 1 for O & M breakout of "Expansion" products.)

Clarke recognized that "Expansion" products represented the fastest growing revenue category and that O & M was only a marginal player. The future challenge was threefold:

1) Bringing the "Expansion" products under one "business umbrella"; this required significant organizational and operational changes in managing supply and buy chains.

2) Determining how profitable "Expansion" products could become.

3) Developing a strategy for O & M that would lead to sustainable competitive advantage in the future.

Because of the complexity of this challenge, Clarke decided that O & M should initially focus on two categories, Radiology and Surgical Instruments to grow this business. The Radiology category has 2 prime segments, X-ray film and Contrast Media. Since O & M has a limited presence in X-ray film distribution, Clarke further decided to focus only on the Contrast Media segment. Therefore, the overall challenge was to put together a growth plan for both Contrast Media and Surgical Instruments.

U.S. MEDICAL / SURGICAL SUPPLY INDUSTRY

In 2007, expenditures in the business to business U.S. medical / surgical supply industry were estimated to be $95.2b. It is projected that expenditures will grow at an annual rate of 4.8% from 2009 until 2015. The industry can be segmented into two areas.

1) **PROVIDER MARKETS** (location where care is delivered)

- **ACUTE CARE HOSPITALS**

- **NON-ACUTE FACILITIES**
  a) Ambulatory Surgery Centers
  b) Physician Offices
  c) Diagnostic Imaging
  d) Home Health Care

e) Long Term Care
f) Dental
g) Veterinary

Expenditures in acute care hospitals totaled $61.1b in 2007 or an approximate 64% share of the $95.2b total. (See Exhibit 2.)

2) **PRODUCT CATEGORIES** (based on the type of product and channel used to supply products to the provider markets)

- **DISTRIBUTED**

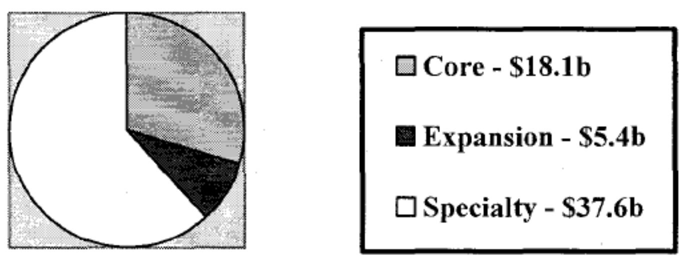
  a) CORE – products that move through a distributor like Owens & Minor.

  b) EXPANSION – products that move primarily through niche distributors. An example would be Contrast Media products.

- **DIRECT**

  a) SPECIALITY – products that move direct from a supplier to a provider. An example would be a surgical device ordered by a physician from a supplier and shipped via Fed Express or UPS.

A breakout of the $61.1b of expenditures in acute care hospitals on 2007 in the above product categories is as follows.



(Exhibit 2 contains a complete breakout of expenditures in PROVIDER MARKETS and PRODUCT CATEGORIES)

ACUTE CARE FACILITIES (HOSPITALS)

In 2008, there were approximately 7,000 hospitals in the U.S. Some of the major players in the industry are Hospital Corporation of America (HCA), HealthSouth and Kaiser Permanente, with none having a market share greater than 4.0%. The industry is very fragmented with the top 50 organizations holding less than a 30% market share.

Major issues confronting hospitals include:

- Wages and other labor costs comprise approximately 50% of a hospital's cost structure. With qualified labor becoming more difficult to find, incentive packages are being offered to hire or retain staff.

- Costs for supplies and equipment constitute approximately 17% of a hospital's cost. Large hospitals (networks) enjoy a certain degree of power over these purchases, putting a squeeze on manufacturers and distributors like O & M. Additional sources of cost control will be necessary in the future.

- The use of Information Technology (IT) is growing in hospitals with applications in financial, operations and customer service areas. However only larger hospitals can afford the IT expenditures necessary to significantly reduce costs in these areas. Therefore, hospitals are looking for "IT partners" to help manage areas such as billing, purchasing and logistics-inventory control.

A major opportunity for hospitals to lower cost is the growing use of radiofrequency identification (RFID) technology to monitor supply chain and warehouse functions and also in asset management tracking. Less than 1/3 of all hospitals use such technology and only 1/2 know enough about the technology to understand the benefits of adoption.

Specific examples of successful applications of RFID technology include:

- Medication tracking – robotic dispensing unit

- Monitoring of medications

- Asset Management – tracking equipment such as telemetry monitors which frequently were discarded at a cost of $4,500 / unit

Forecasts are that RFID products and services will grow from $90m in 2008 to $2.1b in 2016.

RFID solutions do have several drawbacks:

- For low-cost items, the cost of the RFID tag can be equal to or greater than the unit cost of the item

- No tag currently exists that can survive the sterilization processes used by manufacturers. As a result, tags have to be applied manually *after* manufacturing and sterilization are complete. This limits tagging to the box or case level, unless the individual products are removed from their original packaging

- Implementing RFID tracking requires an investment in both hardware (tag readers) and software (systems and databases for recording the tracking results), which can range from $15,000 to $110k+ for a typical hospital. Implementation for a distributor or a supplier will cost at least $500k+

OWENS & MINOR

OVERVIEW:

Owens & Minor (O & M) is a leading national distributor of medical and surgical supplies and a healthcare supply-chain management company. O & M's primary distribution customers are acute care hospitals, many of which are represented by integrated healthcare networks (IHNs) or group purchasing agents (GPOs). These organizations contract for distribution services with O & M and also negotiate pricing with medical and surgical suppliers.

In 2008, O & M distributed over 220,000 finished medical and surgical products produced by over 1,600 suppliers to approximately 4,500 healthcare providers / customers from 55 distribution centers. Most of the company sales consist of consumables such as disposable gloves, dressings, endoscopic products, intravenous products, needles and syringes, sterile procedure trays, surgical products and gowns, urological products and wound closure products.

Other O & M customers include the federal government (prime vendor for medical and surgical supply distribution services for the Department of Defense), and alternate care providers such as ambulatory surgery centers, physician practices, clinics, home health care organizations and nursing homes.

O & M also provides logistics services to manufacturers / suppliers of medical and surgical products, as well as to its providers / customers. In fiscal 2008, O & M had revenues of $7.24b, up 8.2% from 2007. Net income was $93.3m, up 28.3% from 2007.

CUSTOMERS (BUYER CHAIN): (See Exhibit 3)

O & M provides distribution services to approximately 4,500 providers / customers, the majority through GPOs and IHN's.

GPOs are entities that act as agents for a group of health care providers to obtain better pricing and other benefits. Hospitals and physicians join GPOs to take advantage of economies of scale, discounted product pricing and logistical support. GPOs contract directly with both medical and surgical product suppliers and distributors such as O & M.

Novation is a GPO organization which represents the purchasing interests of more than 2,400 healthcare organizations. O & M has a 5 year contract with Novation expiring in 2011. Sales to Novation members represented 38% ($2.75b) of O & M's 2008 revenues. O & M also has contracts with other GPO organizations, including Premier, 20% ($1.45b) of 2008 revenues and Broadlane, 12% ($0.87b) of 2008 revenues.

IHNs are typically networks of community owned or managed healthcare providers that offer healthcare services and geographic coverage to a particular market. IHNs are significant in the acute care market because of healthcare delivery and cost containment and their reliance on the hospital as a key component of their organizations. O & M provides enhanced inventory management and other value added services to IHNs.

In addition to GPOs and IHNs, O & M contracts directly with individual and smaller networks of healthcare providers.

SUPPLIERS (SUPPLY CHAIN):

O & M has established relationships with mostly all major suppliers and manufacturers of medical and surgical supplies. By increasing economies of scale from the most efficient suppliers, O & M achieves cost advantage. Sales of products from suppliers participating in the company's supply chain efficiency programs represented 45% ($3.26b) of 2008 revenue.

Major suppliers / manufacturers include Covidien and Johnson & Johnson Health Care Systems, Inc. Sales of Covidien and Johnson & Johnson products accounted for 14% ($1.01b) and 11% ($0.80b) of O & M's 2008 revenue.

PRODUCTS / SERVICES:

The distribution of medical and surgical supplies to healthcare providers / customers accounted for over 95% of O & M revenues in 2008. This included O & M's MediChoice® private label product line. O & M partnered with a select group of manufacturers to offer this line which consists of over 1,800 commodity products. Customers achieve both efficiency and cost savings through purchase of these products. MediChoice also supports product standardization initiatives by offering a single brand for regularly purchased items.

The services provided by O & M include inventory management, information management, strategic, logistical and clinical inventory management consulting, materials management outsourcing and resource management. Specific programs include:

1) OM Solutions – Consists of supply chain consulting, customer technology and resource management teams. These services create value by decreasing supply chain costs. For example, O &M provides clinician consultants who work one-on-one with hospital staff to standardize products, processes and technologies.

2) PANDAC – O & M's operating room inventory management system.

3) Surgitrack – Customizable surgical supply service which allows customers standardized products and reduced inventory.

4) Wisdom Gold – O & M's internet-based management, data normalization and contact management solutions.

5) Clinical Supply Solutions (CSS) – An internet-based management system for cardiology, electrophysiology and interventional radiology departments. Handles ordering, inventory

management, contract management. Bundled with an analytical resource (FTE) service that identifies opportunities to increase revenue, decrease spending and increase product utilization.

SALES / MARKETING:

O & M has an integrated marketing / sales strategy. At the corporate level it is organized to support field sales teams throughout the U.S. by responding to customer needs and providing quick and efficient services. National account directors work with GPOs and IHNs to coordinate activities of their individual members.

O & M also has an enterprise sales team that operates centrally and coordinates service offerings for large customers. Such services include supplier management, distribution and logistics, analytics and resource management / consulting.

O&M has a sales force of approximately 250 sales representatives. Each sales representative has a territory ranging in size from approximately $5M in total sales to more than $50M. Territories could contain just one large hospital, or many hospitals.

O&M's sales force are not "product experts". Since O&M sells more than 175,000 different items, it is impossible for a sales representative to have detailed knowledge about all products. Instead, reps focus sales growth in two ways:

1) For existing customers, identifying sales opportunities based on categories of products that O&M can potentially distribute or switch from one manufacturer to another, more profitable manufacturer, or
2) Signing new customers to distribution deals

The sales force relies on the manufacturer representatives to provide customers with the necessary product information, including comparisons to other manufacturer products.

Sales force compensation is focused on growing sales and margin. Reps receive commissions proportionate with the margin a product sales delivers to O&M. In general, selling a high margin item (e.g. private label products) will give a representative more compensation than selling a low margin item (e.g. a product from a manufacturer that does not incent O&M with discounts, growth payouts, etc.).

INFORMATION TECHNOLOGY:

O & M ontsources its information technology operations to Perot Systems Corporation via a contract through 2014. The contract includes the management and operation of information technology and infrastructure, and support of all key systems. The company's technology strategy focuses on customer service, electronic commerce, data warehousing, decision support, supply chain management, warehouse management, and sales / marketing. O & M uses electronic commerce technology to conduct transactions with both providers / customers and suppliers.

DISTRIBUTION CENTERS:

O & M has 55 distribution centers in the U. S. A list of such centers is contained in Exhibit 4.

RADIOLOGY / CONTRAST MEDIA

Radiology utilizes medical imaging technologies such as ultrasound, computed tomography and magnetic resonance imaging. There are 3 radiology product categories, Contrast Media, X-ray film and Radiopharmaceutical. Only the Contrast Media category will be covered in this case.

Contrast agents or media, sometimes referred to as dyes, are used to highlight specific areas in the body, making organs, blood vessels, or tissues more visible. By increasing the visibility of all surfaces of the organ or tissue being studied, contrast agents can help the radiologist determine the presence and extent of disease or injury.

Contrast agents are available in several forms, but in general, a CT contrast agent is a pharmaceutical substance. Some of the more common contrast agents used are iodine, barium, barium sulfate, and Gastrografin.

Contrast agents for CT examinations are administered in four ways:

- IV injection
- Oral administration (often flavored)
- Rectal administration
- Inhalation

Contrast Media agents have the following characteristics: liquid, bulky case quantities, high dollar value per cubic foot and are temperature sensitive. This is important information when deciding how to inventory and ship such products.

Allergic reactions to Contrast Media have traditionally been an issue with many patients. Newer forms of agents have been known to help lessen such reactions, and, in some cases, a CT exam may be performed without the use of a contrast agent.

CONTRAST MEDIAL CATEGORY AT O & M

In 2008, the total category revenue of Contrast Media agents in the U.S. was approximately \$2.4b. Category growth rates from 2009 through 2015 are projected to increase at an annualized rate of 4.5% per year.

O & M had Contrast Media revenue of $68.9m in 2008 and therefore only a 2.8% share of the market. However, revenue increased by 28% from 2007 to 2008 without any significant effort by O & M to grow the business.

SUPPLIERS:

The four largest manufacturers and suppliers of Contrast Media agents are G. E. Healthcare, Covidien Mallinckrodt, Berlex Labs and Bracco Diagnostics. Together, they account for over 90% of the products manufactured and supplied, with G. E. and Covidien Mallinckrodt comprising over 60%. O & M has a strong relationship with all of these companies.

BUYERS:

Contrast Media agents are sold to both acute (hospitals) and non-acute (imaging centers, ambulatory surgery centers) customers. In 2008, hospitals accounted for approximately 62% or $1.54b of the $2.4b total category revenue. This share is expected to decrease in the future as the number of imaging centers and ambulatory surgery centers increase.

DISTRIBUTORS:

Contrast Media agents are distributed through the following outlets: (see Exhibit 5)

1) Pharmaceutical Distributors – Comprise 40% of 2008 category revenue. Such distributors include Cardinal Healthcare, McKesson and Amerisource Berger.

2) Specialty Distributors – Comprise 25% of 2008 category revenue. Such distributors include Merry X-Ray / Source One which is the largest single specialty distributor. National Healthcare Distributors (NHD) is the largest group of specialty distributors.

3) Manufacturers That Distribute Directly – Comprise 30% of 2008 category revenue. Bracco which distributes 50% of its products directly is the largest.

4) Medical Surgical Distributors – Comprise only 5% of 2008 category revenues. O & M, Cardinal Healthcare and Medline are the primary distributors.

In order for O & M to increase its share, it must find ways to better compete with Pharmacy, Specialty and Direct distributors.

ORDERING PROCESS:

At acute care facilities, the ordering of Contrast Media agents is done through the Radiology Department of the hospital. Most of these orders (60%) are placed through the hospital pharmacy which also buys drugs and other supplies. The pharmacy buyers are able to exert significant pricing power over the distributors of Contrast Media agents because margins on drugs are much higher and they are able to bundle pricing with such distributors. O & M has little or no relationships with the pharmacy because it does not distribute drugs.

In addition to pharmacies, many hospitals have a separate department, Materials Management, which also orders Contrast Media agents. In addition to ordering such agents, this department also has logistics, inventory and forecasting responsibilities. Therefore O & M has its strongest relationships with this department because it can offer a range of services in addition to supplying the agents. Approximately 25% of Contrast Media orders are made through the Materials Management departments in U. S. acute care facilities. This amount is expected to increase in the future because of the emphasis on cost control in hospitals. In fact, there is a move to change the name of Materials Management to Supply Chain Management recognizing the need to control the activity based costs of inventory and logistics.

The remaining 15% of Contrast Media orders are placed either directly to manufacturer or through a specialty distributor. Exhibit 6 depicts the Contrast Media ordering process at acute care facilities.

CUSTOMERS:

A list of the top O & M Contrast Media customers is contained in Exhibit 7. The top 10 customers comprise less than 15% of O & M's total revenue, in the Contrast Media category.

O & M projects that there is an approximate $190m incremental opportunity to grow the Contrast Media business with its existing customer base. It also projects an overall $737m opportunity in acute care, without converting existing pharmacy distribution.

Reasons for customers to buy and convert to O & M include:

- Long standing relationships with customers
- Dissatisfaction with previous distributor
- Cost Track customer
- Solutions opportunities

MEDICAL DEVICE INDUSTRY – U.S.

To better understand the Surgical Instruments category at O & M, it is necessary to examine the Medical Device Industry in the U.S. Medical devices are apparatus, machines or instruments that are used diagnose or treat various diseases. In 2008, expenditures in this industry were projected to be $89b. By 2013, the industry was projected to have expenditures of $138b or an average growth rate of approximately 10% per annum.

There are an estimated 8,000 medical device manufacturers in the U.S., comprised of a few large and mid-sized firms and a large number of startups. The industry depends on large sums of monies that are invested in R & D activities.

Exhibit 8 contains a breakout of the various segments in the Medical Device Industry. One of the largest segments is General Surgery Devices, which comprises most of the surgical instruments sold by O & M.

GENERAL SURGERY DEVICES- U.S.

The General Surgery segment had total expenditures of approximately $10.9b in 2008 with per annum growth of 10% projected through 2013.

Key trends or drivers in the segment include:

- Expansion of MIS to address other areas (pediatric, bariatric laparoscopy).
- Increased awareness of MIS procedures by both patients and doctors.
- Increasing numbers of minor surgeries have added growth in the disposable surgical supplies sub-segment.

The General Surgery segment contains a number of sub-segments, which are listed in Exhibit 8A. The majority of the surgical instruments distributed by O & M fall into the Open Surgery Instruments sub-segment. In 2008, revenues of $1.4b were attained in Open Surgery Instruments, with a per annum growth rate of 2.5% projected through 2013.

SURGICAL INSTRUMENTS CATEGORY AT O & M

In fiscal 2008, O & M sold / distributed over 8,000 surgical instrument skus (stock keeping units) to its various customers. These products can be broken down into two areas:

1) Non-disposable (reusable) – Instruments are made of higher grade steel with different compounds. After initial use they are sanitized and reused. Some examples are knives (amputation, skin graft), dermal punches, scalpels, scalpel handles, scissors for cardiovascular use, wound retractor and needle holders. (See Braun / Aesculap website: http://www.surgical-instruments.info/en/products.html for more details.)

2) Disposable – Instruments are made of lower grade steel. Some examples are bandage scissors, dressing forceps, hemostats and safety scalpels. Often, these instruments are used on nursing floors for minor procedures. (See Sklar websites: http://www.sklarcorp..com/CategoriesUS.aspx?DepartmentID=12 and http://www.sklarcorp..com/CategoriesUS.aspx?DepartmentID=13 for more details.)

O & M had revenues of $174.5m in Surgical Instruments in 2008. This represented an approximate 12.5% share of total Open Surgery Instrument expenditures (see Exhibit 8A); however, it comprised 42.4% of O & M's "Expansion" products revenue in 2008 (see Exhibit 1).

From 2007 to 2008, revenue growth was 10% without major efforts by O & M to grow the business. O & M projects that future revenue growth in Surgical Instruments will average 10 – 15% per annum through 2013.

SUPPLIERS:

O & M purchases surgical instruments from over 100 suppliers / manufacturers in the U.S. A partial list of such companies includes Bectin Dickinson, Cardinal Healthcare, J & J, Ethicon Endo Surgical, Sklar Instruments, Teleflex Medical and Welch Allyn. The top 10 suppliers account for 40% of O & M's 2008 revenues, with J & J being the largest.

BUYERS:

O & M's primary buyers / customers of surgical instruments are acute care centers (hospitals), which account for approximately 80% of category revenue. The other 20% go to non-acute facilities such as ambulatory care centers.

Approximately 40% of the surgical instruments in hospitals are used in the operating rooms with the remainder in other hospital areas.

O & M supplies approximately 700 customers with surgical instruments; however, there are very few large customers. For example, the top 120 customers comprised only 23% of total revenue in 2008; therefore, one challenge is to increase sales to these customers.

O & M's top buyers of surgical instruments include:

Federal Government
Memorial Healthcare System, Florida
Catholic Health Initiative, Georgia
Methodist Healthcare, Texas
Ochshua Medical Center, Louisiana
Novant Health, North Carolina
Johns Hopkins Health Systems, Maryland
Jackson Memorial Hospital, Florida
East Texas Medical Center, Texas
Northshore Health Systems, New Jersey

DISTRIBUTORS:

Distribution of surgical instruments is done in two ways:

1) Direct from manufacturer / supplier to the customer. Non disposable (reusable) instruments are shipped direct because manufactures often provide value added services to the customer such as sharpening.

2) Through a medical / surgical distributor, such as O & M.

The majority of disposable instruments flow through medical / surgical distributors. Specialized non-disposable instruments are usually shipped direct from the manufacturer / supplier to the end customer. However, O & M does distribute certain non-disposable stainless steel instruments made by Sklar Instruments.

ODERING PROCESS:

Approximately 40% of O & M's surgical instrument sales go into the operating room of acute care facilities. This consists of a wide range of products, mostly disposable instruments.

Orders flow from the Operating Room to the Materials Management Department (see Exhibit 9). For disposable instruments, there is usually a pre-established contract price. The customer places the order through the distributor's (O & M) customer service process usually via electronic orders. The products are then shipped through normal O & M distribution.

For non-disposable instruments (stainless steel), 90%+ of sales are handled by the manufacturer sales rep, who quotes prices to the customer. The customer then places the order with the manufacturer directly. In the remaining cases, the customer usually purchases the instruments from their distributor at either a pre-established contract price or at list price.

"EXPANSION" PRODUCTS / ORGANIZATION CHART

Since "Expansion" products are currently being sold with other O & M offerings, a formalized organization chart has not yet been structured. Currently, the responsibility for such products is divided into 2 areas as depicted in Exhibit 10. Basically the division lies between manufacturer / supplier relations and customer / buyer relations. The former includes Corporate Operations, Corporate Accounts, OMSolutions, and Marketing. The latter includes Integrated Service Center Core Distribution (Field sales and operations).

As the "Expansion" products business grows, it may be necessary to form a separate division / business unit with a separate P & L.

GROWTH PLAN FOR "EXPANSION" PRODUCTS

E. V. Clarke recognized that "Expansion" products and the Contrast Media and Surgical Instruments categories represented a huge growth opportunity for O & M. To exploit the opportunity, a strategy that contained clear sources of sustainable competitive advantage needed to be developed and implemented.

Several strategic issues needed to be addressed:

1) How to get more incremental sales to existing customers in the Contrast Media and Surgical Instruments categories.

2) Where should O&M start? Should O&M focus its efforts on suppliers, customers, or both?

3) How to strengthen alliances with suppliers / manufacturers to gain better control of the supply chain.

4) Should specialty distribution centers for Contrast Media and Surgical Instruments be established based on customer location?

5) How to better position and offer solutions / service, to customers and suppliers.

6) Should a separate sales organization be established to provide specialized service to suppliers and customers?

7) Should a separate division / department with P & L responsibilities be formed?

8) Lastly and most importantly, how profitable can the opportunity be?

Clarke knew that organizational and operational changes were necessary at O & M to grow the Contrast Media and Surgical Instruments categories. The question was again – where to start?

PARTIAL LIST OF WORKS CITED

1) Owens & Minor – Form 10-K – Fiscal 2008

2) Owens & Minor – Annual Report – Fiscal 2007, 2008

3) Owens & Minor – Internal Documents – 2007, 2008

4) Mergent Horizon – Owens & Minor Overview – 2008

5) Hospital Materials Management – Contrast Media Product – October, 2008

6) Hospital Materials Management – Drop in Contrast Media Prices – October, 2008

7) Global One Source.com – Owens & Minor – March, 2009

8) Hospitals in the U.S. IBIS World Industry Report – December, 2008

9) Making the Case for RFID – Hospital Management.net – March, 2006

10) Hospitals Play Tag – RFID Finds A Niche in Healthcare – www.Kmworld.com – July / August, 2008

11) Frost & Sullivan – U.S. Medical Devices Market Outlook – 2008

12) Medical Instrument & Supply – IBIS World Industry Report – December 2008

Exhibit 1 – Revenue Breakout of Owens & Minor "Expansion" Products By Category in 2007 / 2008

Product Category		Revenue 2007		Revenue 2008		YOY $ Growth 2007 vs 2008	YOU % Growth 2007 vs 2008
Dialysis	$	27.8	$	32.2	$	4.4	16%
Electrosurgical	$	69.5	$	86.2	$	16.7	24%
Endoscopy	$	34.6	$	39.5	$	4.8	14%
Radiology	$	66.0	$	79.6	$	13.6	21%
Contrast Media	$	3.70	$	68.90	$	15.20	28%
Surgical Instruments	$	158.8	$	174.5	$	15.8	10%
Expansion Category	**$**	**356.8**	**$**	**412.0**	**$**	**55.2**	**15%**

Owens & Minor "Expansion" Products – Percentage Breakout by Revenue - 2008

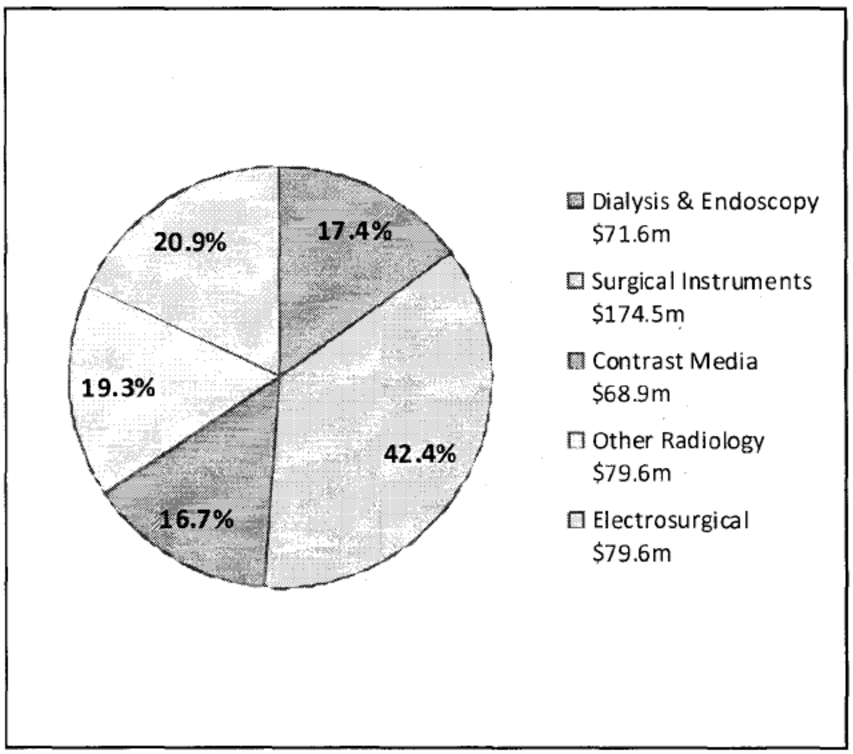
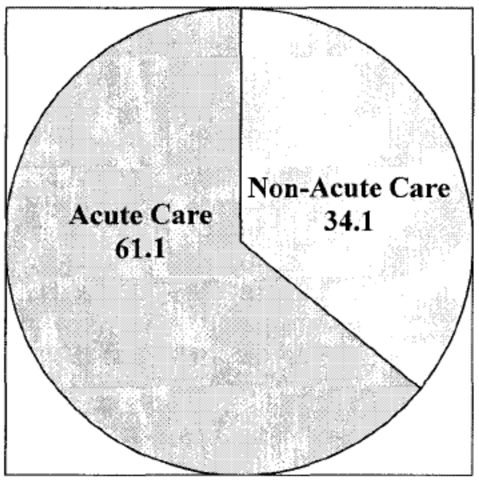


Exhibit 2 – Breakout of Medical / Surgical Supply Market Expenditures in 2007 by Provider Market and Product Category

Total Expenditures
$95.2b



Acute Exenditures
$61.1b

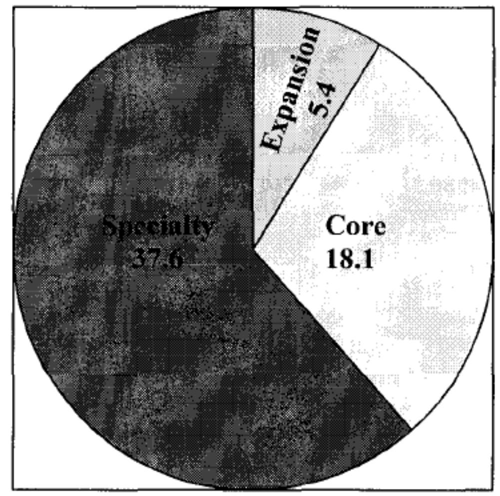
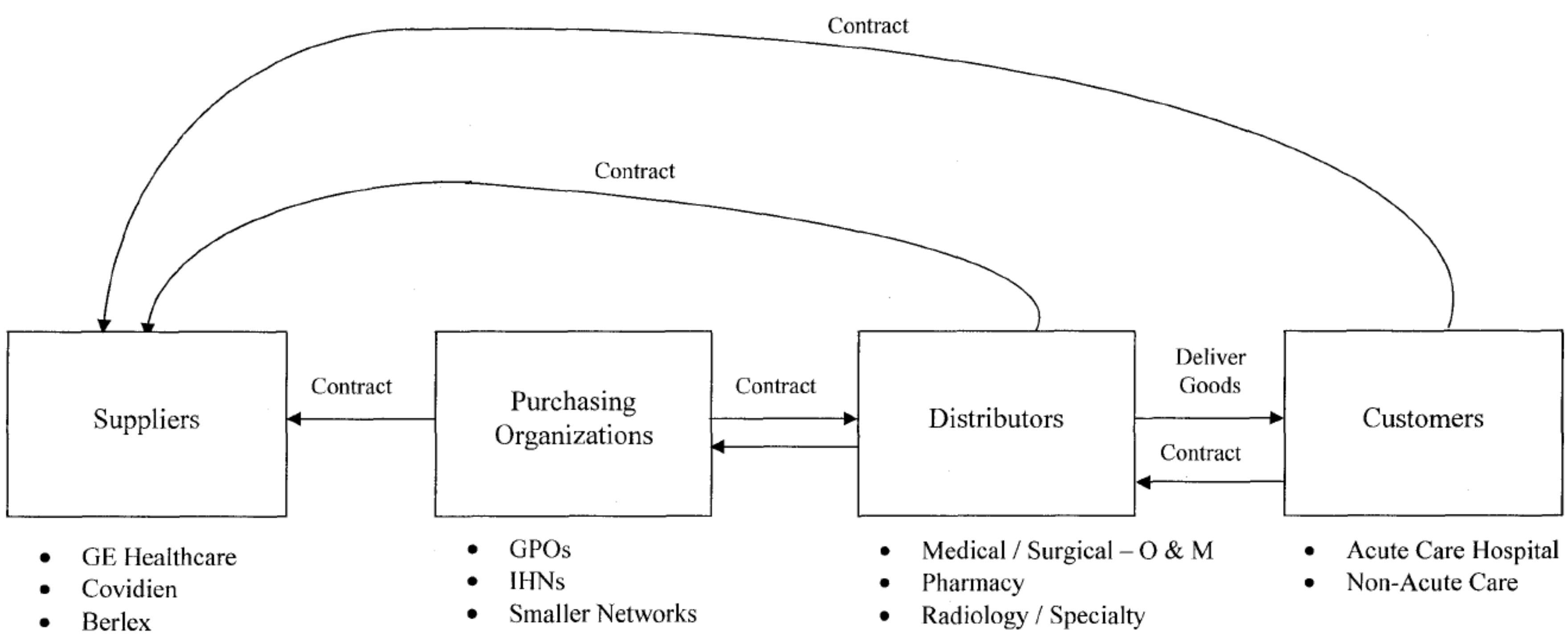


Exhibit 3 – Contrast Media Suppliers & Buyer / Customer Chain – Owens & Minor



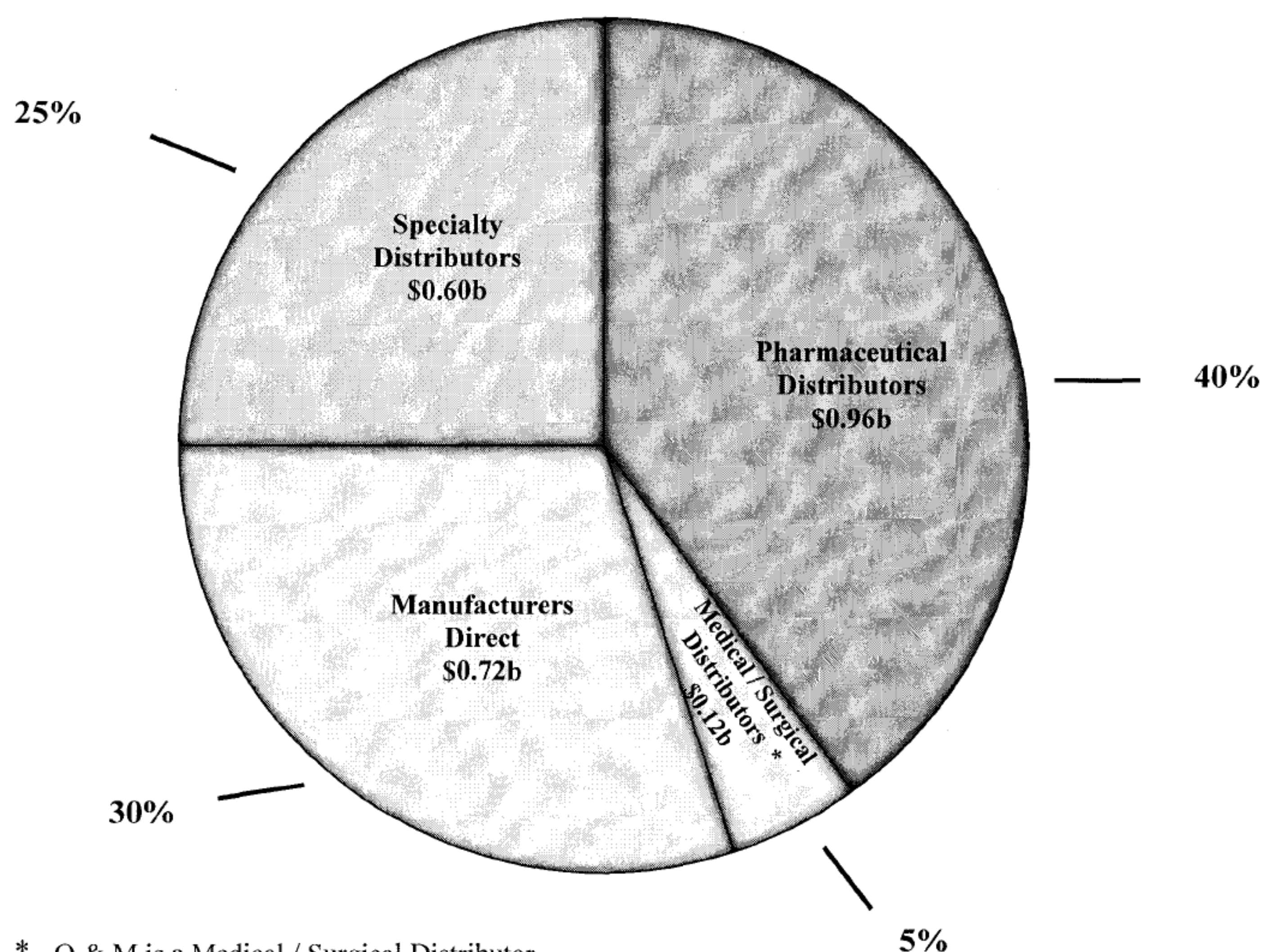
- Purchasing Organizations (GPOs) represent customers; contract with suppliers to buy products, services; contract with distributors (O & M) to have products, services distributed.

Exhibit 4 – List of Owens & Minor Distribution Centers

Albuquerque, NM
Allentown, PA
Atlanta, GA
Augusta, GA
Baltimore, MD
Birmingham, AL
Boston, MA
Charlotte, NC
Chicago, IL
Cincinnati, OH
Cleveland, OH
Dallas, TX
Dayton, OH
Des Moines, IA
Detroit, MI
F. Lauderdale, FL
Gainesville, FL
Greensburg, PA
Harlingen, TX
Honolulu, HI
Indianapolis, IN
Jackson, MS
Jacksonville, FL
Kansas City, MO
Knoxville, TN
Las Vegas, NV
Los Angeles, CA
Louisville, KT
Memphis, TN
Minneapolis, MN
Nashville, TN
New Orleans, LA
Oklahoma City, OK
Omaha, NE
Orlando, FL
Phoenix, AZ
Portland, OR
Raleigh, NC
Richmond, VA
Rochester, NY
Salt Lake City, UT
San Diego, CA
San Francisco, CA
Seattle, WA
St. Louis, MS
Tulsa, OK
Waunakee, WI
West Deptford, NJ

Exhibit 5 – Distributors of Contrast Media Agents in 2008

$2.4b Revenue



* O & M is a Medical / Surgical Distributor