

Value-Based Proposition for a Dedicated Interventional Pulmonology Suite

An Adaptable Business Model



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Value-based care is evolving with a focus on improving efficiency, reducing cost, and enhancing the patient experience. Interventional pulmonology has the opportunity to lead an effective value-based care model. This model is supported by the relatively low cost of pulmonary procedures and has the potential to improve efficiencies in thoracic care. We discuss key strategies to evaluate and improve efficiency in interventional pulmonology practice and describe our experience in developing an interventional pulmonology suite. Such a model can be adapted to other specialty areas and may encourage a more coordinated approach to specialty care.

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Interventional pulmonology (IP) has evolved into a dedicated subspecialty that encompasses minimally invasive diagnostic and therapeutic thoracic procedures. These are performed by a relatively small number of IP physicians. Historically, pulmonologists have practiced traditional pulmonary and critical care medicine and have not prioritized the advancement of pulmonary procedures.^{1,2} Many communities have either limited or no access to IP services. Barriers include relatively low reimbursement coupled with increased technical effort, training requirements, and physician time compared with other aspects of practice, such as critical care, evaluation and management services, and sleep medicine.^{1,3} Current reimbursement patterns do not incentivize

pulmonary procedures necessary to optimize patient care because they are neither time efficient nor cost effective.^{4,5} A dedicated IP team offers significant advantages to not only a pulmonary practice but to hospital systems as well. Patients with potential IP-related issues can be evaluated expeditiously, and appropriate procedures can be performed by the same set of physicians, therefore offering enhanced continuity of care. Physicians who specialize and have expertise in these services do optimize quality, efficiency, and patient convenience. Over the last 10 years, we have built a successful IP program, which is regionally and nationally recognized. The IP service was branded as the Chicago Chest Center separate from the larger practice to encourage competition-free referrals.

ABBREVIATIONS: IP = interventional pulmonology; MACRA = Medicare Access and CHIP Reauthorization Act

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In an era of mounting cost and quality initiatives from clinical integration networks and accountable care organizations, we have seen care models shift from specialty silos to integrated delivery systems.^{6,7} The concept of value-based care has evolved with a focus to improve efficiency, enhance the patient experience, and reduce cost.^{1,8} The relatively low cost of pulmonary procedures and efficient delivery positions IP as a care model in the value-based era.

Current Trends in Health Care Influencing IP Value-Based Care

Value-based programs are patient-centered and use a coordinated team-based approach with an overall goal to improve quality of care.⁹ Value-based programs reward health-care providers with incentive payments for the quality of care they provide to patients with managed care or government insurances. The most familiar of these is sponsored by the Centers for Medicare and Medicaid Services under the Medicare Access and CHIP Reauthorization Act (MACRA). In theory, these programs are part of the larger quality strategy to reform how health care is delivered and ultimately reimbursed. The goals of value-based programs are better care for individuals, better health for populations, and lower cost. Whether or not the proposed value-based programs will positively impact patient care is not the subject of this paper. Rather, they are part of the current practice environment and our described approach seeks to adapt to this environment.

Time Line of Value-Based Programs

The Medicare Improvements for Patients and Providers Act was implemented in 2008 as early legislation addressing value-based care (Fig 1). One important

	2008	2010	2012	2014	2015	2018	2019
Legislation Passed	MIPPA	ACA		PAMA	MACRA		
Legislation Implemented			ESRD-QIP HVBP HRRP	HAC	VM	SNF-VBP	APMs MIPS

Figure 1 – Time line of value-based care. ACA = Affordable Care Act; APM = Advanced Alternative Payment Model; ESRD-QIP = End-Stage Renal Disease Quality Incentive Program; MACRA = Medicare Access and CHIP Reauthorization Act; HAC = hospital-acquired conditions; HRRP = Hospital Readmission Reduction Program; HVBP = Home Health Value-based Program; MIP = Merit-based Incentive Payment System; MIPPA = Medicare Improvements for Patients and Providers Act; PAMA = Protecting Access to Medicare Act; SNF-VBP = Skilled Nursing Facility Value-based Program; VM = value modifier.

provision of the Medicare Improvements for Patients and Providers Act was the allocation of federal funding to assist low-income Medicare beneficiaries to apply for programs that make Medicare affordable. The Affordable Care Act followed in 2010. The stated goal is to provide comprehensive health insurance options that will expand coverage, hold insurance company's accountable, lower health-care costs, guarantee more choice, and enhance the quality of care for everyone in the United States. Several programs that focused on particular disease states were developed between 2012 and 2014. MACRA was passed in 2015. Under MACRA, providers can choose to participate in one of two tracks, either the Advanced Alternative Payment Model or the Merit-based Incentive Payment System. Advanced Alternative Payment Models are essentially cost of care risk models where a program has a pool of dollars with which to provide care to a group of patients with similar conditions. Care that is cost-effective results in net profit for the organization; whereas inefficient care results in a net loss. In theory, this disincentivizes unnecessary care or procedures, but quality effect is less clear. A Merit-based Incentive Payment System combines the Physician Quality Reporting System, the Value-Based Payment Modifier, and the Medicare Electronic Health Record Incentive Program. With value-based care and quality payment models, hospitals are gauged on measures of outcome such as mortality and complications, health-care-associated infections, patient safety, patient experience, and process.¹⁰ This alphabet soup of programs represents the ongoing changes in health care that are best adapted by developing and maintaining efficiency of service.

Impact of Value-Based Programs and MACRA on IP

The impact of the value-based programs and MACRA on IP or related subspecialties is unknown. However, we anticipate the emergence of comprehensive care and reimbursement models that are diagnostically focused rather than episodic. IP is a specialty that is well positioned to provide services that improve cancer care, decrease hospital admissions for patients with advanced cancers, and treat severe asthma and other airway and pleural diseases.

Health-Care Strategies for an IP Program That Improve Efficiency

With a goal of improving efficiency, we sought to analyze our processes (Table 1). We mapped procedural workflow with an eye toward developing an IP suite.

TABLE 1] Health-Care Strategies for an IP Program to Improve Efficiency

Efficient procedural work flow
• Procedural flow mapping
• Lean principles
• Dedicated procedural space (eg, IP suite)
Knowledgeable management team
• Appropriate coding and billing
• Avoid duplication of services
Integrating IP into lung cancer care at the institution
• Lung cancer screening and lung nodule programs
• Thoracic malignancy clinic

IP = interventional pulmonology.

We attempted to apply lean principles, which aim for more efficient operations and use of capital without comprising quality of care. We coupled this with appropriate, accurate coding and billing functions supported by a knowledgeable management team. Our focus was to target the main user of IP services by integrating IP into comprehensive lung cancer care. Key outcome was the avoidance of duplication of services. We subsequently discuss the process of

evaluating current procedural flow, discuss efficiency, and use the development of an IP suite as a specific example.

Bronchoscopy Flow

A team of nurses, technicians, physicians, and the endoscopy manager were gathered to evaluate and map our workflow for bronchoscopy (Fig 2). Patients undergoing outpatient bronchoscopy were followed from the time of registration to postprocedure discharge.

The collected data elements are listed in Table 2.

Analysis of the data identified several opportunities to improve efficiency, such as the creation of standardized orders, documentation templates, and improved changeover procedures. IP procedures were being performed in several locations within the hospital, including the ultrasound department, the ambulatory surgery unit, the endoscopy unit, and the OR. We investigated the concept of developing an IP suite to perform all procedures in one location.

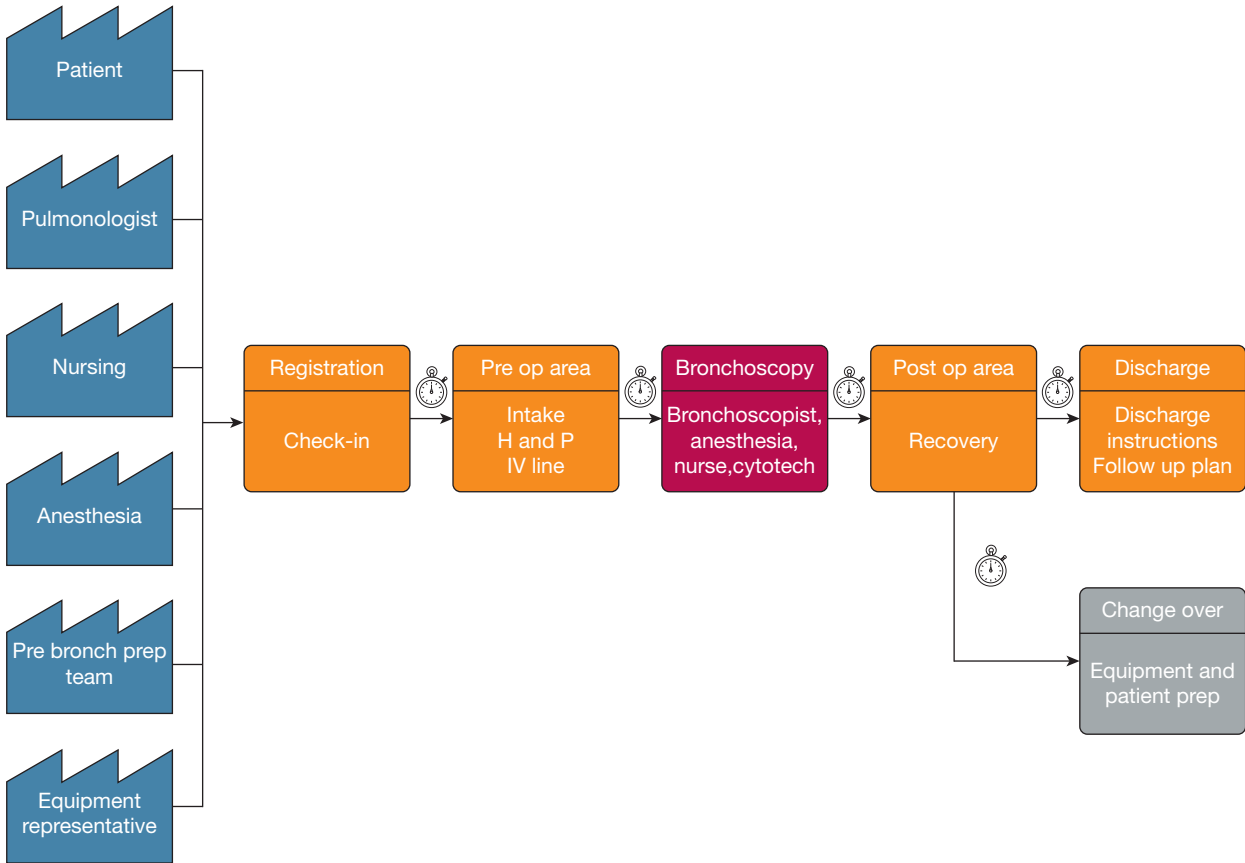


Figure 2 – Bronchoscopy flow mapping. *branch* = bronchoscopy; *H and P* = history and physical; *op*, operative; *prep* = preparation.

TABLE 2] Data Elements Collected to Evaluate Bronchoscopy Flow

• Time of registration
• Time of arrival to the endoscopy suite
• Preprocedural preparation time (eg, IV line, history and physical, informed consent, other paperwork)
• Time of entry into the procedure room
• Procedure start time
• Pathologist and radiology technician arrival time
• Procedure completion time
• Time patient departure from procedure room
• Discharge time
• Change over time (time taken to prepare procedure room between cases)

IP Suite Business Plan

At some point, new or updated resources are essential to maintaining state-of-the-art medical care. Most resources require capital funding. A business plan brings together the why, when, where, and how of a new endeavor. Table 3 lists the key components of a business

plan. In the following paragraphs, we highlight some of the essential areas of our own business plan.¹¹

Business Environment (Market and Business Analysis)

The market for acute care health services in the Chicago area is highly competitive. There are five large academic medical centers and several well-established community health systems with flagship facilities. Our institution is part of a large health-care system that has grown through mergers. The hospital values optimal participation in accountable care organizations and the ability to negotiate with various commercial insurance entities. The institution seeks to develop state-of-the-art facilities and differentiating services such as IP in an effort to retain patients who might otherwise travel to the academic institutions or other competitors. One of the strategic goals of the institution is to be recognized as a leader in thoracic care. We conducted a market analysis to identify competitors on various levels from basic products to service lines (Fig 3).

TABLE 3] Key Components of a Business Plan

Key Components	Brief Description
Executive summary	An overview of the project and usually no more than two pages. It should include a brief outline of the problem, business model, financial plan, and what one is asking. It is usually written last and is meant to grab the reader's attention.
Company overview	This section is a description of the business, practice, or hospital. The size, geographic location, profit vs not-for-profit, mission, vision, and so forth are included. The other topics that need to be covered are the existing facilities, business strategy, and the governance structure in the company.
Product overview	The description of the product or service you are planning to build or sell. List all the goods and services. Explain the target market you are aiming and discuss the possible problems.
Market and business analysis	This is one of the most important aspects of the plan. It should include a detailed description of the current company structure and state. Evaluation of the market related to the area and the business plan is included. Force field analysis can be a useful tool to evaluate positive and negative demographic, economic, legislative, and technology forces.
SWOT analysis	SWOT analysis is a useful framework and helps evaluate the business critically and objectively. Strengths and weaknesses are internal, and opportunities and threats are external.
Customer value strategy	This encompasses evaluation and description of customer needs and value related to the overall service and product.
Management summary	This includes the description of the management team and their experience. One should list the people in the major positions and provide a biography of each. Enlist outside advisors such as accountants, lawyers, insurance agents, and practice consultants.
Business development	The proposed business location should be discussed. Include details of buying, leasing, and so forth. Describe small or large focus group evaluations and opinions. Explain the operations, quality control, implementation action, and staff requirements.
Legal and/or regulatory issues	An important aspect and in health care these include Stark Law, CMS issues, MACRA and MIPS, and accreditation.
Financial plan	This should include the details of expansion requirements and the cost of labor and services. Financial projections should be compared with the historical data.

CMS = Centers for Medicare & Medicaid Services; MACRA = Medicare Access and CHIP Reauthorization Act; MIPS = Merit-based Incentive Payment System; SWOT = strengths, weaknesses, opportunities, and threats.

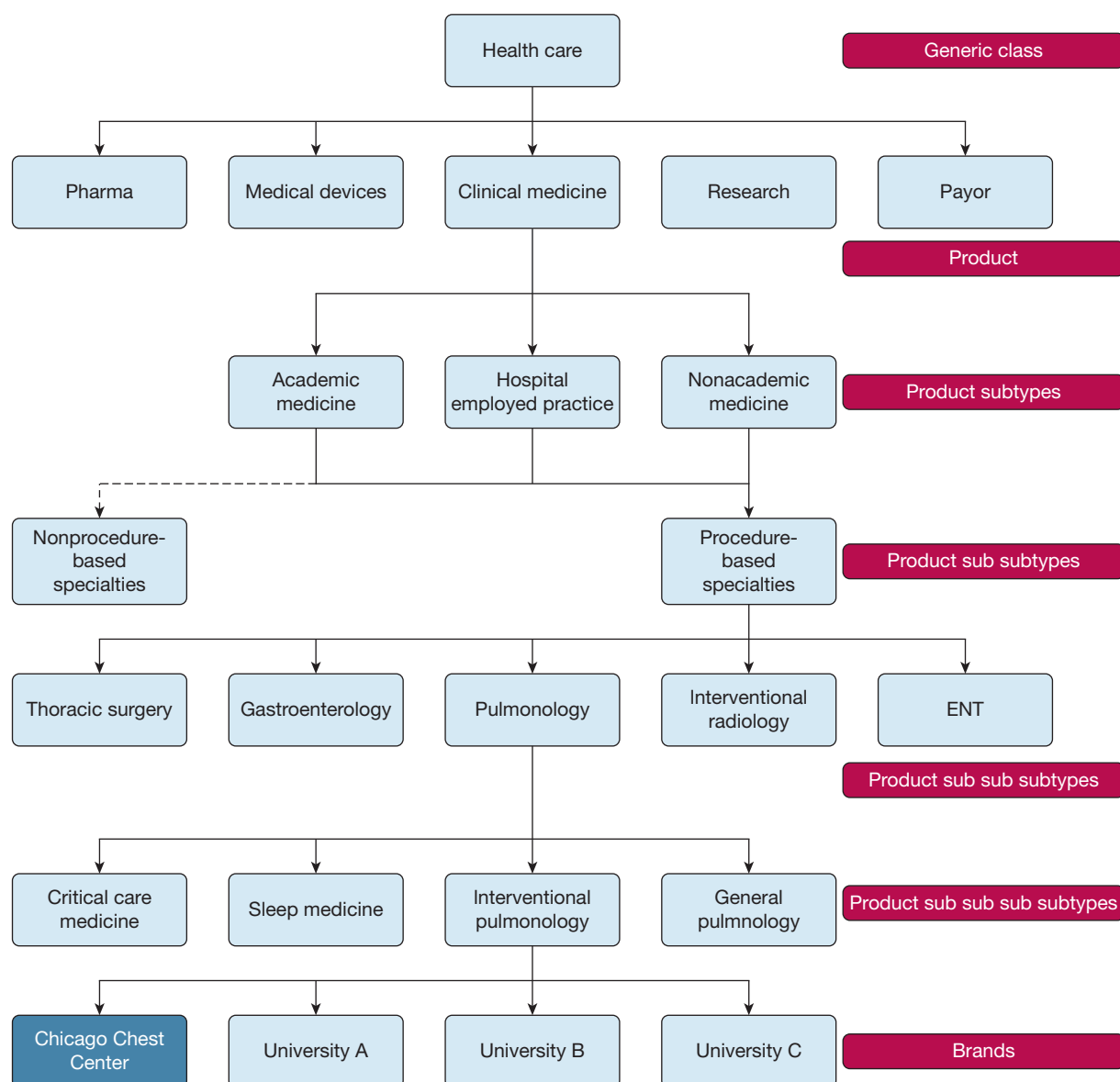


Figure 3 – *Interventional pulmonology program location in health-care environment. ENT = Ear Nose Throat specialty (Otolaryngology).*

Product Overview

IP encompasses a range of minimally invasive diagnostic and therapeutic thoracic procedures in a specialty that overlaps many fields. IP procedures have high diagnostic yields and low complication rates. They have become the standard of care in lung cancer diagnosis and have a major role in palliation. Currently, most of both basic and advanced diagnostic bronchoscopy procedures are performed in the endoscopy unit. Therapeutic bronchoscopy procedures and medical thoracoscopy are typically performed in the main OR. Thoracentesis and indwelling pleural catheter placement are performed most often in an ambulatory surgery center. However, all such

procedures are likely best performed in a dedicated IP procedure area.

Strengths, Weaknesses, Opportunities, and Threats Analysis

After market analysis was complete, we evaluated our practice to identify our strengths, weaknesses, opportunities, and threats. Details are described in Table 4.

Customer Value Strategy

We developed an IP service as patients benefit from having greater access to cutting-edge, minimally invasive

TABLE 4] SWOT Analysis of an IP Program

Strengths <ul style="list-style-type: none"> • Latest IP technologies • All core cancer services providing quality care • Physicians are national and regional experts in IP • Good perceptions among other providers • Navigator role established in lung cancer • Strong geographic footprint • Established referral center for IP 	Weaknesses <ul style="list-style-type: none"> • Current services are decentralized, fragmented, poorly located, and difficult to access • Lack of awareness and familiarity in marketing for the cancer care and IP program • Endoscopy center is at capacity • Requests for procedure block times for physicians are being refused
Opportunities <ul style="list-style-type: none"> • Growth of IP programs across the country • Increased emphasis on patient-centered and coordinated care for lung cancer • Decrease outmigration of patients in IP and patients with lung cancer • No dedicated IP suite at other area hospitals 	Threats <ul style="list-style-type: none"> • Stigma of a community hospital • Loss of alliances and partners • Strong competition from academic cancer programs

See Table 1 and 3 legends for expansion of abbreviations.

diagnostic and therapeutic modalities. Our premise is that a designated IP suite improves access to such services by alleviating space constraints and allowing for a larger number of procedures to be scheduled in a shorter time frame. Using one location with a dedicated experienced staff routinely doing complex cases in volume improves the ability of the hospital's physicians to do high-risk cases in a cost-effective setting.

The increased volume of IP cases increases downstream revenue by increasing referrals to thoracic surgeons, medical and radiation oncologists, pathologists, radiologists, and others as a result of the increased throughput of lung cancer diagnosis.

The value to the facility of a designated IP suite is easy to recognize. The facility-based charges for each procedure will be a welcome revenue stream. More importantly, the facility will be able to market itself as an institution that offers cutting-edge IP services in a state-of-the-art treatment area. This will result in a greater number of patients remaining within the institution for advanced care. Community awareness of enhanced facilities that offer the latest minimally invasive diagnostics and treatments will boost the hospital's reputation in its market.

Competitive Strategy

The competitive strategy is to market the designated IP suite as a new procedural facility. The emphasis will be on fellowship-trained dedicated proceduralists, the latest technology, and specialized staff to manage even high-risk cases safely and on a par with our academic colleagues. Although volume, efficiency, and revenue will increase, we anticipate that overall cost will decrease.

Using the IP suite for cases that would otherwise have been done in an OR would potentially be more cost-effective. Facility reimbursement per procedure is the same in hospital-based settings and the overhead in an endoscopy unit is lower than an OR. By freeing up OR time and space, the hospital can accommodate more complex and better-reimbursed cases in the OR. The fiscal benefit is in maximizing the use of both the OR and endoscopy units while providing a safe environment and minimizing costs. We discuss hospital-based

TABLE 5] Key Duties of the Medical Director and Management Team

Administrative and educational duties
<ul style="list-style-type: none"> • Assisting in implementing medical-/administrative hospital- and departmental-specific policies • Formulating strategic development for the department • Providing evidence-based medicine standards of care • Monitor safety for patients and staff • Create quality and efficiency metrics to improve overall clinical outcomes • Assisting with the development of quality and efficiency improvement protocols • Provide periodic in-service and education to the staff
Business
<ul style="list-style-type: none"> • Create financial and managerial accounting statements • Identify new areas of growth and evaluate new technology and equipment
Inventory
<ul style="list-style-type: none"> • Supply chain management of equipment and medications
Coding and billing
<ul style="list-style-type: none"> • Ensure appropriate documentation and billing of procedures

Interventional Pulmonology Suite					
Pro Forma Statement					
Conservative estimate					
	2016	2017	2018	2019	2020
Projected Volume					
ENB	24	27	28	30	31
EBUS	150	160	168	176	185
Therapeutic Bronch	40	45	47	50	52
MT	25	30	32	33	35
IPC placement	40	45	47	50	52
Trach	30	35	37	39	41
Peg	28	35	37	39	41
Diagnostic bronch	200	210	221	232	243
Total procedures	537	587	616	647	680
Revenue (hospital)					
ENB	\$ 73,920	\$ 83,160	\$ 87,318	\$ 91,684	\$ 96,268
EBUS	\$ 451,800	\$ 481,920	\$ 506,016	\$ 531,317	\$ 557,883
Therapeutic Bronch	\$ 140,000	\$ 157,500	\$ 165,375	\$ 173,644	\$ 182,326
MT	\$ 100,000	\$ 120,000	\$ 126,000	\$ 132,300	\$ 138,915
IPC placement	\$ 60,000	\$ 67,500	\$ 70,875	\$ 74,419	\$ 78,140
Trach	\$ 75,000	\$ 87,500	\$ 91,875	\$ 96,469	\$ 101,292
Peg	\$ 28,896	\$ 36,120	\$ 37,926	\$ 39,822	\$ 41,813
Diagnostic bronch	\$ 541,200	\$ 568,260	\$ 596,673	\$ 626,507	\$ 657,832
Net revenue	\$ 1,470,816	\$ 1,601,960	\$ 1,682,058	\$ 1,766,161	\$ 1,854,469
Expenses					
Fixed Cost					
Facility cost	\$ 174,525.00	\$ 190,775.00	\$ 200,313.75	\$ 210,329.44	\$ 220,845.91
Depreciation	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00
Variable cost					
Average labor cost (nurse +tech)	\$ 56,385.00	\$ 61,635.00	\$ 64,716.75	\$ 67,952.59	\$ 71,350.22
Supplies	\$ 11,277.00	\$ 12,327.00	\$ 12,943.35	\$ 13,590.52	\$ 14,270.04
Pharmacy	\$ 450.00	\$ 472.50	\$ 496.13	\$ 520.93	\$ 546.98
Food	\$ 1,200.00	\$ 1,260.00	\$ 1,323.00	\$ 1,389.15	\$ 1,458.61
Repairs	\$ 1,300.00	\$ 1,365.00	\$ 1,433.25	\$ 1,504.91	\$ 1,580.16
Net Expenses	\$ 262,187.00	\$ 287,834.50	\$ 301,226.23	\$ 315,287.54	\$ 330,051.91
Initial Investment	\$ 500,000.00				
Depreciation total	\$ 100,000.00				
Cost of capital	8%				
EBT	\$ 1,208,629.00	\$ 1,314,125.50	\$ 1,380,831.78	\$ 1,450,873.36	\$ 1,524,417.03
Taxes (40%)	\$ 483,451.60	\$ 525,650.20	\$ 552,332.71	\$ 580,349.35	\$ 609,766.81
Net Profit	\$ 725,177.40	\$ 788,475.30	\$ 828,499.07	\$ 870,524.02	\$ 914,650.22
Total profit over 5 years	\$ 4,127,326.00				
Statement of cash flows					
NOPAT	\$ 725,177	\$ 788,475	\$ 828,499	\$ 870,524	\$ 914,650
Operating cash flow (OCF)	\$ 745,177	\$ 808,475	\$ 848,499	\$ 890,524	\$ 934,650
Project Evaluation					
Net present value (NPV)	\$ 3,493,660.15				
IRR	753%				
ROI	165%				

Figure 4 – Conservative estimate of investment return for interventional pulmonology suite. EBUS = endobronchial ultrasound; ENB = electro-magnetic navigational bronchoscopy; IPC = indwelling pleural catheter; IRR = internal rate of return; MT = medical thoracoscopy; PEG = percutaneous endoscopic gastrostomy; ROI = return on investment; tech = technician; Trach = tracheostomy.

Interventional Pulmonology Suite					
Pro Forma Statement					
Aggressive estimate					
	2016	2017	2018	2019	2020
Projected Volume					
ENB	24	27	31	36	41
EBUS	150	160	184	212	243
Therapeutic Bronch	40	45	52	60	68
MT	25	30	35	40	46
IPC placement	40	45	52	60	68
Trach	30	35	40	46	53
Peg	28	35	40	46	53
Diagnostic bronch	227	250	288	331	380
Total procedures	564	627	721	829	954
Revenue (hospital)					
ENB	\$ 73,920	\$ 83,160	\$ 95,634	\$ 109,979	\$ 126,476
EBUS	\$ 451,800	\$ 481,920	\$ 554,208	\$ 637,339	\$ 732,940
Therapeutic Bronch	\$ 140,000	\$ 157,500	\$ 181,125	\$ 208,294	\$ 239,538
MT	\$ 100,000	\$ 120,000	\$ 138,000	\$ 158,700	\$ 182,505
IPC placement	\$ 60,000	\$ 67,500	\$ 77,625	\$ 89,269	\$ 102,659
Trach	\$ 75,000	\$ 87,500	\$ 100,625	\$ 115,719	\$ 133,077
Peg	\$ 28,896	\$ 36,120	\$ 41,538	\$ 47,769	\$ 54,934
Diagnostic bronch	\$ 614,262	\$ 676,500	\$ 777,975	\$ 894,671	\$ 1,028,872
Net revenue	\$ 1,543,878	\$ 1,710,200	\$ 1,966,730	\$ 2,261,740	\$ 2,601,000
Expenses					
Fixed Cost					
Facility cost	\$ 183,300.00	\$ 203,775.00	\$ 234,341.25	\$ 269,492.44	\$ 309,916.30
Depreciation	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00	\$ 20,000.00
Variable cost					
Average labor cost (nurse +tech)	\$ 59,220.00	\$ 65,835.00	\$ 75,710.25	\$ 87,066.79	\$ 100,126.81
Supplies	\$ 11,844.00	\$ 13,167.00	\$ 15,142.05	\$ 17,413.36	\$ 20,025.36
Pharmacy	\$ 450.00	\$ 517.50	\$ 595.13	\$ 684.39	\$ 787.05
Food	\$ 1,200.00	\$ 1,380.00	\$ 1,587.00	\$ 1,825.05	\$ 2,098.81
Repairs	\$ 1,300.00	\$ 1,495.00	\$ 1,719.25	\$ 1,977.14	\$ 2,273.71
Net Expenses	\$ 274,364.00	\$ 306,169.50	\$ 349,094.93	\$ 398,459.16	\$ 455,228.04
Initial Investment	\$ 500,000.00				
Depreciation total	\$ 100,000.00				
Cost of capital	8%				
EBT	\$ 1,269,514.00	\$ 1,404,030.50	\$ 1,617,635.08	\$ 1,863,280.34	\$ 2,145,772.39
Taxes (40%)	\$ 507,805.60	\$ 561,612.20	\$ 647,054.03	\$ 745,312.13	\$ 858,308.95
Net Profit	\$ 761,708.40	\$ 842,418.30	\$ 970,581.05	\$ 1,117,968.20	\$ 1,287,463.43
Total profit over 5 years	\$ 4,980,139.38				
Statement of cash flows					
NOPAT	\$ 761,708	\$ 842,418	\$ 970,581	\$ 1,117,968	\$ 1,287,463
Operating cash flow (OCF)	\$ 781,708	\$ 862,418	\$ 990,581	\$ 1,137,968	\$ 1,307,463
Project Evaluation					
Net present value (NPV)	\$ 4,133,664.10				
IRR	793%				
ROI	199%				

Figure 5 – Aggressive estimate of investment return for interventional pulmonology suite. See Figure 4 legend for expansion of abbreviations.

procedures because it is not prudent to do the full spectrum of IP cases in an office setting. Further, although some of the diagnostic cases could be done in an ambulatory care setting, splitting the locations of service between an ambulatory care setting for some and the hospital for others magnifies the inefficiencies we encountered using different settings within the same hospital. Offering a full spectrum of services allows for integration into a coordinated care model such as comprehensive thoracic care. This creates value for the population served throughout the entire health-care continuum.

Operations Strategy

A dedicated IP team already exists at our facility. The existing support staff can undergo additional training in new procedures and grow as more procedures are added. An experienced team consisting of a medical director, a business lead, a lead anesthesiologist, and a lead IP nurse will manage the IP suite (Table 5).^{1,2,12}

As we move toward value-based care, it will be vital to encourage the performance of procedures that will reduce the length of stay for inpatients and avoid unnecessary admissions. The IP suite should allow procedures to be performed in an efficient and timely manner, which will reduce the time interval between diagnosis and treatment.

Accreditation

Hospital construction and build-outs are subject to local regulations and need to be addressed locally.

Financial Plan

Because our institution had a full spectrum of IP and anesthesia equipment and available endoscopy space that could be modified, the cost of building an IP suite within our identified space required an initial investment of approximately \$500,000. If an institution is starting from a different point in program development for IP or for any service, consideration of the cost of space or construction, equipment, staff, and the like needs to be factored in. Financial projections for our IP suite look very strong. For illustration purposes, two proforma statements with volume and revenue projections are shown: one with a very conservative volume estimate and the other with a little more aggressive estimate (Figs 4, 5). Both scenarios demonstrate profitability.

The growth of IP is rapid, and the number of IP procedures across the country have steadily increased. Annual growth is expected to remain strong because there is growing acceptance and greater awareness of the field of IP. Our program has consistently shown growth justifying the range of our estimates. Conservative estimates are based on starting at the existing volume with a subsequent increase of 5% per year. The more aggressive estimates are based on an increase in volume of 15% per year.

The breakeven point or the time until the \$500,000 investment is paid back is 8.3 months with the conservative estimate of 5% increase in IP volume and 6.3 months with the aggressive estimate of 15% increase in IP volume. A program with a different starting point related to space, volume, or equipment would need to factor in these differences to estimate their breakeven point.

Conclusions

With the continued growth and clinical acceptance of dedicated interventional pulmonologists, it is logical that a dedicated IP suite should naturally follow in the development of a comprehensive thoracic program in those institutions that choose to offer IP. A dedicated IP suite has both clinical and financial attributes that make it a worthy investment. As value-based care becomes widely adopted, it compels specialists to seek opportunities to use these principles to improve efficiency, improve quality, and control costs. The business plan and model described in this article can be used to evaluate the building of an IP suite, and ultimately may serve as a model in developing any new program.

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