II

Forecasting Hospitalist Program Financials

Pro forma captures net financial return of a hospitalist program

The pro forma is the simplest means for outlining the array of factors driving hospitalist program operating profit or loss. While activity, direct revenue, and the full range of expenses are outlined, the more comprehensive analysis goes further to quantify supplemental revenue opportunities (e.g., savings from reduced length of stay, added revenue from incremental admissions occupying freed beds) and the net gains they provide to the hospital.

Sample Pro Forma

General Hospital[1] Hospitalist Program

Activity

Admissions		3,506
Consults and Outpatient Encounters		1,050
	Total	4,556

Net Revenue

Admissions		$1,141,690
Consults and Outpatient Encounters		$170,700
	Total	$1,312,390

Direct Expense

Hospitalist Salary, Benefits, and Overhead		$1,628,480
Night Coverage		$554,400
Indirect Expenses (Billing, Collections, etc.)		$172,963
	Total	$2,355,843

Gross Profit

Margin	($1,043,453)

Proposed Supplemental Revenue

Cost Savings		$1,227,100
Revenue from Increased Admissions		$350,600–$876,500
	Total	$1,577,700–$2,103,600

Revised Operating Profit

Margin	$534,247–$1,060,147

[1] Pseudonymed institution.

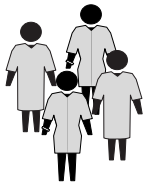
Source: Clinical Advisory Board interviews and analysis.

Operating margins are impacted by four categorical drivers

Patient volumes and physician referrals (whether for admission or consult) will drive hospitalist program activity which subsequently drives total revenues. Salary, benefits of day and night hospitalists, as well as added practice overhead, comprise the vast majority of program expenses. On a straight revenue versus cost basis, most programs will experience a shortfall. Gains derive from supplemental revenue as hospitalists improve throughput and standardize care, and subsequent cost savings and new revenues are accounted.

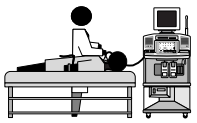
Component Considerations of Analysis

1 Activity



Admissions

- Patient volume
  - Unassigned patients
  - Physician referrals



Consults/Outpatient

- Night consults
- Inpatient procedures
- Outpatient consults

2 Net Revenue

Admissions

- Payer mix
- Case mix
- Reimbursement rates

Consults/Outpatient

- Billing/Collections
- Patient volume
- Reimbursement rates

3 Direct Expense

Hospitalist Salary/Benefits

- Staffing requirements
- Benefits components
- Practice overhead

Night Coverage

- Full-time or call coverage
- Support staff
- Patient volume

4 Supplemental Revenue

Cost Savings

- Average LOS reduction
- Cost per case savings
- Reduced ambulance divert hours

Increased Revenue from New Admissions

- From primary admitters
- From secondary admitters
- From surgeons

Source: Clinical Advisory Board interviews and analysis.

Consideration #1: Predicting Patient Volume

Emergency department admissions best basis for calculating hospitalist program volume

Predicting volumes is the essential first step to estimating program revenue and hospitalist staffing costs—each essential to the return-on-investment calculation. New programs can predict volumes using emergency department admissions data. However, since these numbers have seasonal fluctuation, hospitals should obtain a large enough sample to accurately gauge their impact on hospitalist program volume.

Determining Hospitalist Patient Volume

Activity

Admissions		3,506
Consults and Outpatient Encounters		1,050
	Total	4,556

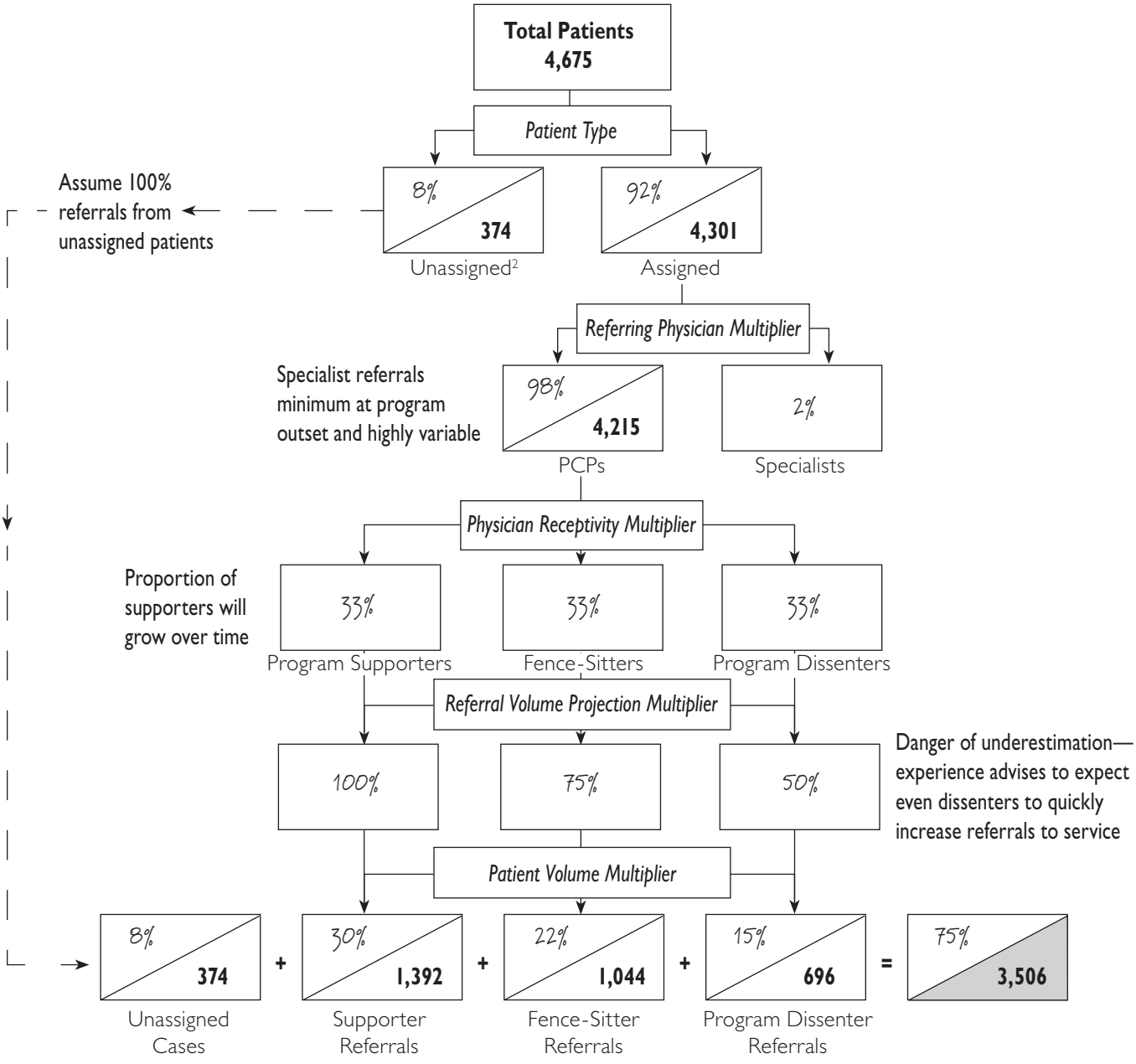
Total admits from ED per year		8,500	
Percentage of these that are medical patients	×	55%	
Medical admits from ED	=	4,675	
Percentage referred to hospitalist program	×	75%	
Annual admits to program	**=**		**3,506**
Other inpatient encounters		+	600
Outpatient encounters		+	450
Total hospitalist activity		=	4,556

Source: Clinical Advisory Board interviews and analysis.

Inpatient volumes depend largely on rate of referrals from area primary physicians

Projecting the percentage of patients referred to the service is not just the most difficult variable to calculate, it can be the most volatile and it will be impacted widely by the initial receptivity and subsequent satisfaction of community-based physicians. Industry advisors counsel clients to expect that 75 to 90 percent of eligible emergency admissions will be referred to the service and the number to rise further as the program matures. To gain a more accurate measure of anticipated physician receptivity, a survey is recommended.

Percentage of Patients Referred to Service at Holder Hospital[1]



[1] Pseudonymed institution.

[2] Percentage of unassigned ED patients may vary widely and is hospital-specific.

Source: Clinical Advisory Board interviews and analysis.

Added consults and outpatient encounters round out activity profile

Hospitals commonly underestimate the number of patients the hospitalist program will absorb because they strictly calculate unassigned and referred patients. As programs gain experience, expertise, and credibility, the hospitalists take on a wider breath of clinical responsibility, such as ED consults, routine procedures, medicine consults, and even outpatient preoperative medical consults. The challenge is to weigh such added encounters against more traditional ambitions to grow inpatient admissions.

Summing Up Patient Encounters

Activity

Admissions		3,506
Consults and Outpatient Encounters		1,050
	Total	4,556

Accounting for Other Patient Encounters

Total admits from ED per year		8,500	
Percentage of these that are medical patients	X	55%	
Medical admits from ED	=	4,675	
Percentage referred to hospitalist program	X	75%	
Annual admits to program	=		3,506
Other inpatient encounters	+		600
Outpatient encounters	+		450
Total hospitalist encounters	**=**		**4,556**

Source: Clinical Advisory Board interviews and analysis.

Essential to distribute hospitalist activity consistent with program objectives

While added encounters may prove a valuable source of activity (and revenue), time spent on consults and outpatient activities will probably come at the expense of inpatient throughput. Experienced programs advise that physicians limit activity to those encounters that affect length of stay negatively, or reduce inappropriate admissions (e.g., timely administration of EKGs and stress tests, SNF, and ED visits), or facilitate operating room productivity (e.g., last-minute preoperative assessments).

Balancing a Wide Range of Priorities

Encounter Type	Pros	Cons	Factors Impacting Volume
Admits/Discharges	• Maximizes patient throughput reductions • Frees maximum number of bed days • Increases volume of patients referred to program	• Reduced interaction with nonreferring physicians • Limit program ability to expand scope of care	✓ Hospital occupancy ✓ Hospitalist support staff ✓ 24/7 and weekend presence
Other Inpatient	• Broader exposure to entire medical staff • Eliminates hospitalist downtime and maximizes off-hours productivity • Maximizes earning potential through procedures, consults • Potential to overcome care delays	• Limits LOS gains by taking time away from inpatient throughput-enhancing activities • Procedural competency may limit revenue opportunity from additional work	✓ Credibility of service with medical staff ✓ Tenure of program ✓ Hospitalist specialty training ✓ ***Most leveraged encounters*** – EKGs, stress tests, central lines
Other Outpatient	• May increase ED throughput • Reduces unnecessary ED admissions • May increase surgery throughput	• Limits LOS gains by taking time away from inpatient throughput enhancing activities • Cost of activities likely to outweigh revenue gains	✓ EP reliance on program for gatekeeping ✓ Use of hospitalists for preoperative consults ✓ Space available for treatment ✓ ***Most leveraged encounters*** – Post-acute follow-up visits with inpatients – Preoperative medical assessments – SNF patient visits – ED visits with social work support

Source: S.H.M. 2002 Survey of Hospitalist Productivity and Compensation, available at: http://www.naiponline.org/presentation/apps/resource/survey2002.asp; Clinical Advisory Board interviews and analysis.

Consideration #2: Calculating Expected Revenue

While mix and rates drive revenue, programs can do little but mitigate their negative effect

Patient mix (by payer or acuity) will vary based on market forces, patient demographics, and hospital service offerings. Absent exclusive contracts, payer mix is largely uncontrollable. The same could be said of case mix, but accurate coding can mitigate its impact. While it is not uncommon to see the proportion of patients weighted slightly toward higher acuity, it is also not uncommon to see the opposite, but this is largely driven by undercoding on the part of hospitalists. Precise tracking ensures that hospitalists do not inaccurately document complex care as routine.

Mitigating Revenue Impact of Mix

Net Revenue

Admissions		$1,141,690
Consults and Outpatient Encounters		$170,700
	Total	$1,312,390

Number of Patients per Year in Program

n=(3,506)

	Medicare	Medicaid	Commercial	Blue Cross	Self-Pay
Payer Mix	58%	7%	10%	20%	5%
Acuity Level					
25% Low	508	61	88	175	44
50% Medium	1,017	123	175	351	88
25% High	508	61	88	175	44
Patient Volume	2,033	245	351	701	176

Payer mix largely uncontrollable
- Most programs report >10% self-pay patients

Case Mix Worth Precise Tracking
- Acuity mix of hospitalist program should reflect, at minimum, case mix of hospital population
- Not uncommon to see proportion weighted slightly toward higher acuity patients
- Essential to ensure hospitalists do not undercode as experience grows and clinical frame of reference shifts such that high acuity medicine becomes routine

Source: Clinical Advisory Board interviews and analysis.

Calculation of billings a fundamentally arithmetical exercise

In the matrix below are listed the seven inpatient CPT visit codes used primarily by hospitalists. For each patient stay, daily rounds are deemed initial, subsequent, or discharge-related. Since only one round is permitted per patient per 24-hour period, subsequent care rounds are billed only when length of stay exceeds two days. Revenue from added activity is predicted using an average value per encounter type.

Total Professional Reimbursement Calculation

CPT Code	Medicare	Medicaid	Commercial	Blue Cross	Self-Pay
99221 Initial Hospital Care – Low	$86	$49	$119	$136	$8
99222 Initial Hospital Care – Medium	$97	$66	$130	$147	$10
99223 Initial Hospital Care – High	$135	$92	$177	$189	$13
99231 Subsequent Hospital Care – Low	$29	$20	$49	$47	$4
99232 Subsequent Hospital Care – Medium	$48	$33	$63	$70	$5
99233 Subsequent Hospital Care – High	$69	$47	$102	$97	$8
99238 Hospital Discharge ≤ 30 min.	$59	$41	$61	$82	$5
	Medicare	**Medicaid**	**Commercial**	**Blue Cross**	**Self-Pay**
Low Acuity	$117,856	$9,150	$28,776	$62,825	$1,100
Medium Acuity	$305,100	$25,338	$66,500	$154,089	$2,464
High Acuity	$203,708	$16,714	$47,872	$98,350	$1,848
	$626,664	$51,202	$143,148	$315,264	$5,412
				Total Reimbursement	$1,141,690
				Other Inpatient Encounters (600 encounters × $190)	$114,000
				Outpatient Encounters (450 encounters × $126)	$56,700
				Total Reimbursement, All Encounters	**$1,312,390**

Assumption

Average length of stay = 5 days

Consideration #3: Gauging Appropriate Staffing

Average length of stay prediction essential to gauging accurate estimate of daily hospitalist activity

Like revenue, average daily census (or total daily encounters) is predicted using the same one-round-per-patient-per-day assumption, whether it be admission, discharge, or subsequent care round, across the average length of stay for the hospitalists' population of patients. Since average length of stay affects census dramatically (as LOS rises, so too does patient census), accurate estimation of this value is essential. Aggressive LOS reduction assumptions could leave the program vulnerable to unsustainable census levels whereas conservatism could leave the program overstaffed relative to admissions volume.

Tallying Hospitalist Patient Activities per Day

Activity

Admissions		3,506
Consults and Outpatient Encounters		1,050
	Total	4,556

Calculating Daily Encounters
(Based on ALOS = 5.0)

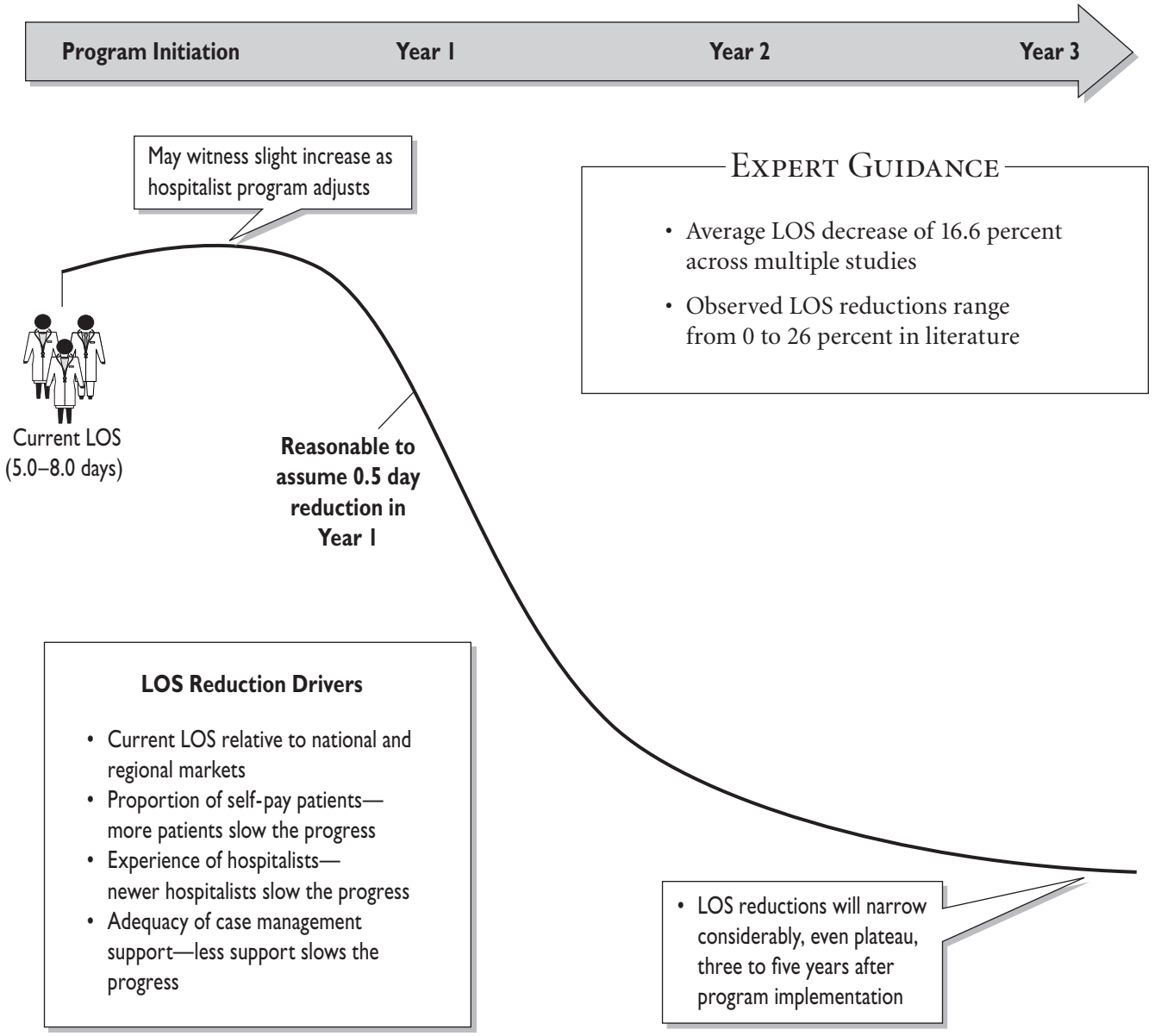
Daily admissions	(3,506 admissions/365 days)	+	9.61
Daily discharges	(3,506 discharges/365 days)	+	9.61
Daily rounding	(3 subsequent care days)(3,506 admissions/365 days)	+	28.83
Other encounters	(1,050 encounters/365 days)	+	2.88
Total daily encounters		=	**50.92**

Source: Clinical Advisory Board interviews and analysis.

First year LOS gains typically modest—greater gains anticipated in second, third years

While studies show that patients cared for by hospitalists typically have an average LOS of 16 to 17 percent less than patients cared for by nonhospitalist peers, actual gains will vary. Institutions should consider local LOS performance, adequacy of case management support, and hospitalist experience when predicting first-year gains. That said, industry advisors suggest that a LOS reduction of 0.5 days is a reasonable first-year performance assumption.

Making LOS Projections



Source: Wachter R, et al., "The Hospitalist Movement, 5 Years Later," *JAMA*, 2002, 287: 487–494; Clinical Advisory Board interviews and analysis.

Daily caseload and monthly shifts per physician drive hospitalist staffing requirement

The number of hospitalists required to support program volumes is largely contingent on the daily caseload each hospital is expected to carry as well as the number of monthly shifts each hospitalist is required to work. Standards for day-shift and night-shift work vary. The average day-shift expectation among new recruits is 15 per month. The night-shift expectation is 13 shifts per month, given the grueling nature of overnight work. Thus, a new breed of "nocturnists" is emerging whose lifestyle make them interested in this type of work exclusively.

Ensuring Adequate Hospitalist Staffing

Direct Expense

Hospitalist Salary, Benefits, and Overhead		$1,628,480
Night Coverage		$554,400
Indirect Expenses (Billing, Collection, etc.)		$172,963
	Total	$2,355,843

Estimating Staff Requirement

Day Hospitalists			
Total daily encounters		50.92	
Average caseload per day hospitalist	÷	14	
Hospitalists to cover 15 12-hour shifts		3.64	
2 sets of 15-hour shifts per month	X	2.00	
Hospitalists to cover entire month			7.27
Night Hospitalists (Optional)			
Monthly shifts		30	
Shifts per month per hospitalist (default:13)	÷	13	
Night hospitalists required			2.31
Total hospitalists required	**=**		**9.58**

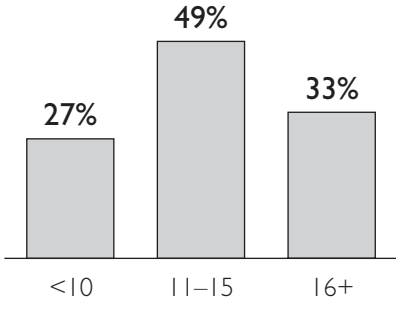
Source: Clinical Advisory Board interviews and analysis.

Little consensus in industry as to appropriate daily caseload (or encounters) per hospitalist

Among the most highly debated topics in hospitalist medicine is what constitutes an appropriate day of activity. Benchmarks are so varied they provide little guidance. A combination of anecdotal evidence and reported data suggests that 15 patients or encounters per day are reasonable. Like LOS, actual capability will be impacted by hospitalist duties and experience, case mix, and the adequacy of support staff. Without support, daily caseloads above 18 patients may compromise LOS performance, physician satisfaction, and even patient satisfaction.

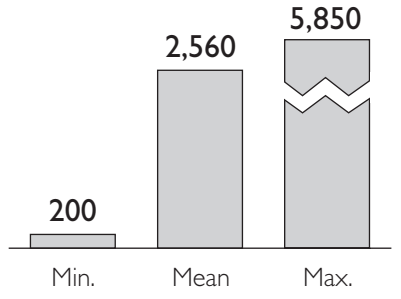
Calculating Appropriate Caseloads per Hospitalist

Average Daily Patient Census



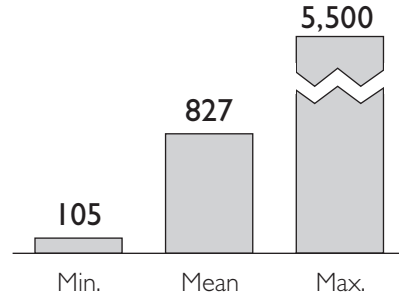
n=372 practicing hospitalists

Annual Encounters



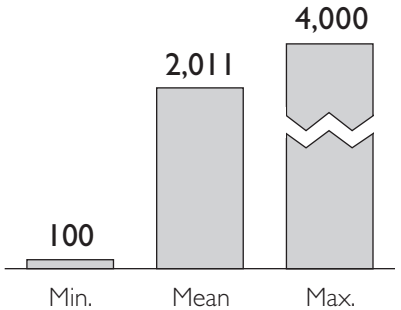
n=167 groups

Annual Admits and Consults



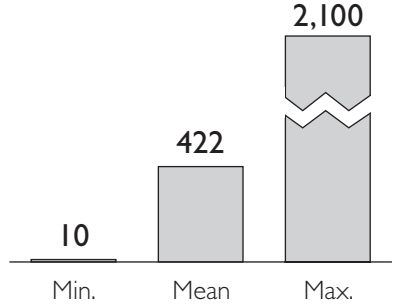
n=161 groups

Annual Inpatient Care Hours



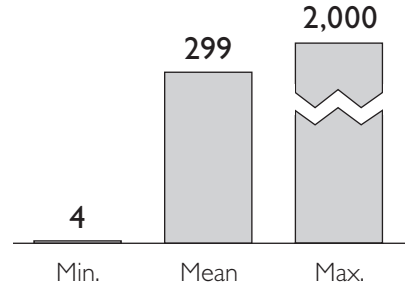
n=204 groups

Annual Outpatient Care Hours[1]



n=49 groups

Annual Nonpatient Care Hours



n=171 groups[2]

The Status Quo

"Most groups go through growing pains as volume outgrows their current infrastructure. In theory, experienced hospitalists should be able to round on 15 to 20 patients in 8 hours and admit 1 patient every hour (+/– 0.5 hours). However, the appropriate mix of rounding and admitting responsibilities becomes harder to figure."

Hospitalist
Asheville, North Carolina

[1] 186 groups reported zero outpatient care hours.

[2] 64 groups reported zero nonpatient care hours.

Source: "National Association of Inpatient Physician Survey," available at: www.naiponline.org/presentation/apps/resource/survey.asp; Clinical Advisory Board interviews and analysis.

Outlays for hospitalist compensation and benefits are lion's share of program costs

Hospitalist salary largely depends on regional cost of living, market rate for services,[1] and training expectation of recruits (internist versus subspecialist). In addition, nocturnists may expect a higher salary because of their taxing hours and yet, a traditional call structure for night services may not yield savings, as hospitalists or a call panel may require extra compensation for "on-call" nights. Benefits are typically an additional 20 percent of salary.

Providing Appropriate Compensation[2]

Direct Expense

Hospitalist Salary, Benefits, and Overhead		$1,628,480
Night Coverage		$554,400
Indirect Expenses (Billing, Collection, etc.)		$172,963
	Total	$2,355,843

Quantifying Salary Expense

Day hospitalist salary		$160,000	
Number of hospitalists	X	7.27	
Cost of day hospitalists			$1,163,200
Night hospitalists salary		$176,000	
Number of hospitalists	X	2.31	
Cost of night hopsitalists			$406,560
Total benefits/overhead per hospitalist (33% to 41% salary)		$64,000	
Total hospitalists	X	9.58	
Total benefits			$613,120
Billing/collection expenses	+		$122,963
Additional expenses	+		$50,000
Total program cost	**=**		**$2,355,843**

[1] Clinical Advisory Board recommends members conduct a fair-market-value analysis.

[2] Clinical Advisory Board recommends consulting legal counsel regarding physician salary.

Source: Clinical Advisory Board interviews and analysis.

That said, essential to build support staff, general administrative, billing expenses into formula

The table below gives cost estimates for programs of varying size and scope. Program overhead costs are often estimated as an additional expense of 10 to 15 percent of hospitalists' salary. Expenses for more sophisticated clinical support personnel (e.g., registered nurse) will be higher, but may be offset by billings on their behalf (if physician assistant or advanced practice nurse). Most agree that the cost of billing/collection agencies should be factored at 8 to 12 percent of program revenue.

A Point of Reference

Patient Census	30		50		70		100	
Program Description	24-hour coverage	Traditional call	24-hour coverage	Traditional call	24-hour coverage	Traditional call	24-hour coverage	Traditional call
Number of physician FTEs	5.1	3.2	6.8	5.3	8.6	7.4	11.2	10.5
Number of staff FTEs	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.5
Expenses								
Physician salary	$790,000	$505,000	$1,045,000	$820,000	$1,315,000	$1,135,000	$1,705,000	$1,600,000
Physician benefits	$158,100	$99,200	$210,800	$164,300	$266,600	$229,400	$347,200	$325,500
Physician salary and benefits	$948,100	$604,200	$1,255,800	$984,300	$1,581,600	$1,364,400	$2,052,200	$1,925,500
Staff salary and benefits	$28,304	$28,304	$42,456	$42,456	$56,608	$56,608	$70,760	$70,760
General and admin. expenses	$41,591	$41,591	$68,313	$68,313	$95,034	$95,034	$134,225	$134,225
Physical plant expenses	$16,230	$11,360	$20,840	$18,890	$25,580	$24,020	$31,360	$30,450
Management fees (CBO) (10% net rev.)	$71,182	$71,182	$118,625	$118,625	$166,069	$166,069	$237,250	$237,250
Total Expenses	$1,105,400	$756,636	$1,506,034	$1,232,584	$1,924,891	$1,706,131	$2,525,795	$2,398,185

Basic Overhead Components

- Bank Service Charges
- Collection Agency Charges
- Contract Labor
- Company Dues
- Office Supplies
- Administrative Compensation
- Postage and Delivery
- Printing and Reproduction
- Professional Development
- Professional Fees—Accounting
- Consulting
- Legal Fees
- Telephone
- Recruitment

Source: Ward C, et al., "Financial Benchmarks for Hospitalist Programs," *The Hospitalist*, November/December, 2002; Clinical Advisory Board interviews and analysis.

Even with modest staffing and good payer mix, still common to see negative gross margin

The pro forma at General Hospital[1] shows a revenue shortfall of approximately $1 million—modest staffing investment and good payer mix aside. Witness the trouble faced by many programs nationally, generating insufficient revenue to cover basic operating costs, especially when supporting 24/7 coverage. With only one billable rounding encounter per day, revenue-generating activities for hospitalists are limited. The challenge is to narrow the shortfall by driving productivity (and revenue) without compromising LOS improvements or hospitalist retention.

Shortfall in Revenue Fails to Cover Expenses

General Hospital Hospitalist Program

Activity

Admissions		3,506
Consults and Outpatient Encounters		1,050
	Total	4,556

Net Revenue

Admissions		$1,141,690
Consults and Outpatient Encounters		$170,700
	Total	$1,312,390

Direct Expense

Hospitalist Salary, Benefits, and Overhead		$1,628,480
Night Coverage		$554,400
Indirect Expenses (Billing, Collections, etc.)		$172,963
	Total	$2,355,843

Gross Profit

Margin	**($1,043,453)**

Proposed Supplemental Revenue

Cost Savings		$1,227,100
Revenue from Increased Admissions		$350,600–$876,500
	Total	$1,577,700–$2,103,600

Revised Operating Profit

Margin	$534,247–$1,060,147

[1] Pseudonymed institution.

Source: Clinical Advisory Board interviews and analysis.

Consideration #4: Quantifying Supplemental Revenue Gains

First task to quantify supplemental savings from length-of-stay reduction

Reductions in length-of-stay (LOS) for hospitalist service patients provide the greatest (and most easily quantified) direct savings. Note that savings are quantified by payer as the amount will vary based on payment type—i.e., savings will only be reaped from days saved on case-rate-based contracts. LOS reductions on per diem contracts are actually losses. In our sample analysis, savings from LOS reductions alone take the program from operating loss to profit.

Financial Benefits of LOS Reduction

Proposed Supplemental Revenue

Cost Savings	$1,227,000
Revenue from Increased Admissions	$350,600–$876,500
Total	$1,577,700–$2,103,600

Quantifying Savings from Reductions in LOS

LOS reduction projection (0.5–1.0 days)	1.0
Saving per reduced day ($300–$700)	$500

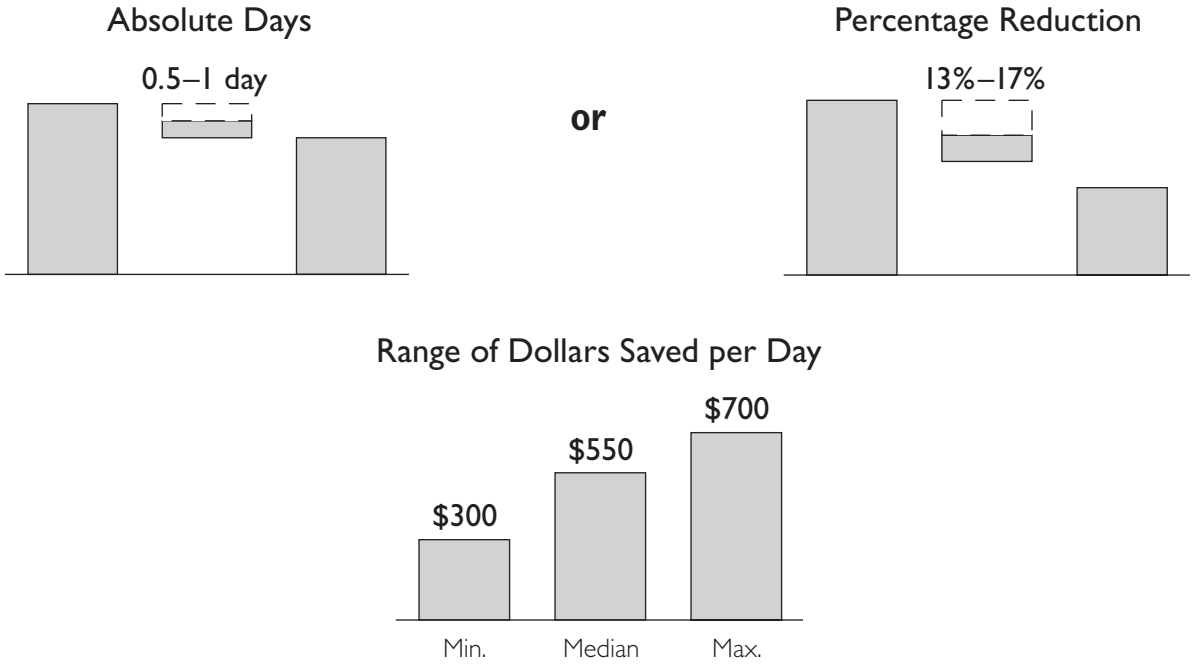
Payer mix	% Patients	% Case rate	% Per diem
Medicare	58%	58%	–
Medicaid	7%	7%	–
Commercial	10%	5%	5%
Blue Cross	20%	10%	10%
Self-Pay	5%	5%	–
Total case mix		85%	15%
Savings/Loss		$1,490,050	($262,950)
Total LOS savings		**=**	**$1,227,100**

Source: Clinical Advisory Board interviews and analysis.

That said, accuracy of savings prediction contingent on reliability of internal cost data

Given that most hospitals cannot capture true costs accurately, any savings analyses are often viewed with skepticism. That said, savings from LOS reductions are real. Where reliable cost-per-day data are unavailable, we provide a suggested range below. Many hospitals use the figure of $550 per day as a surrogate savings metric. A total savings projection can be calculated assuming an absolute or percentage decline relative to current LOS performance for the expected patient population.

Two Methods to Gauge LOS Savings Potential



Cost, Not Charges

"It is not uncommon to mistake charges for costs in a hospital savings analysis. Because the analysis is not one of revenue capture but of savings from reducing days, it's important to use only the cost-per-day value. It represents the actual fixed and step-fixed costs incurred by the hospital on the final inpatient day. Medicine patients do not generate significant revenue on the final day of their stay. We typically calculate $500 per case for every day reduction in a patient's stay."

Martin Buser
Hospitalist Management Resources, LLC

Source: Ward C, "Financial Benchmarks for Hospitalist Programs," *The Hospitalist*, November/December 2002, 13–15; Clinical Advisory Board interviews and analysis.

Next step to quantify new revenue gained from cases that backfill freed bed days

Additional revenue gained by backfilling freed bed days is estimated based on two assumptions: first, the predicted ALOS for the new patient population, and second, the range of anticipated profit, driven largely by type of patient (medical or surgical) and associated contribution to profit. The surgical patient will yield a higher contribution, while the medical patient offers a lower contribution to profit margin. In the simplistic case below, each saved day is assumed to provide $500 per case in profit. Where LOS is higher, profit per case is limited to $500; where LOS is lower, profit doubles.

Financial Benefits of LOS Reduction

Proposed Supplemental Revenue

Cost Savings	$1,227,000
Revenue from Increased Admissions	$350,600–$876,500
Total	$1,577,700–$2,103,600

Quantifying "New" Revenues

Length-of-Stay Reduction per Patient		1
Total Admissions to Service	×	3,506
Freed Bed Days	=	3,506

Best Scenario (Low ALOS, High Profit)	
Minimum Predicted LOS	4
New Admissions	876
Maximum Profit per Admit	$1,000
Incremental Profit	$876,500

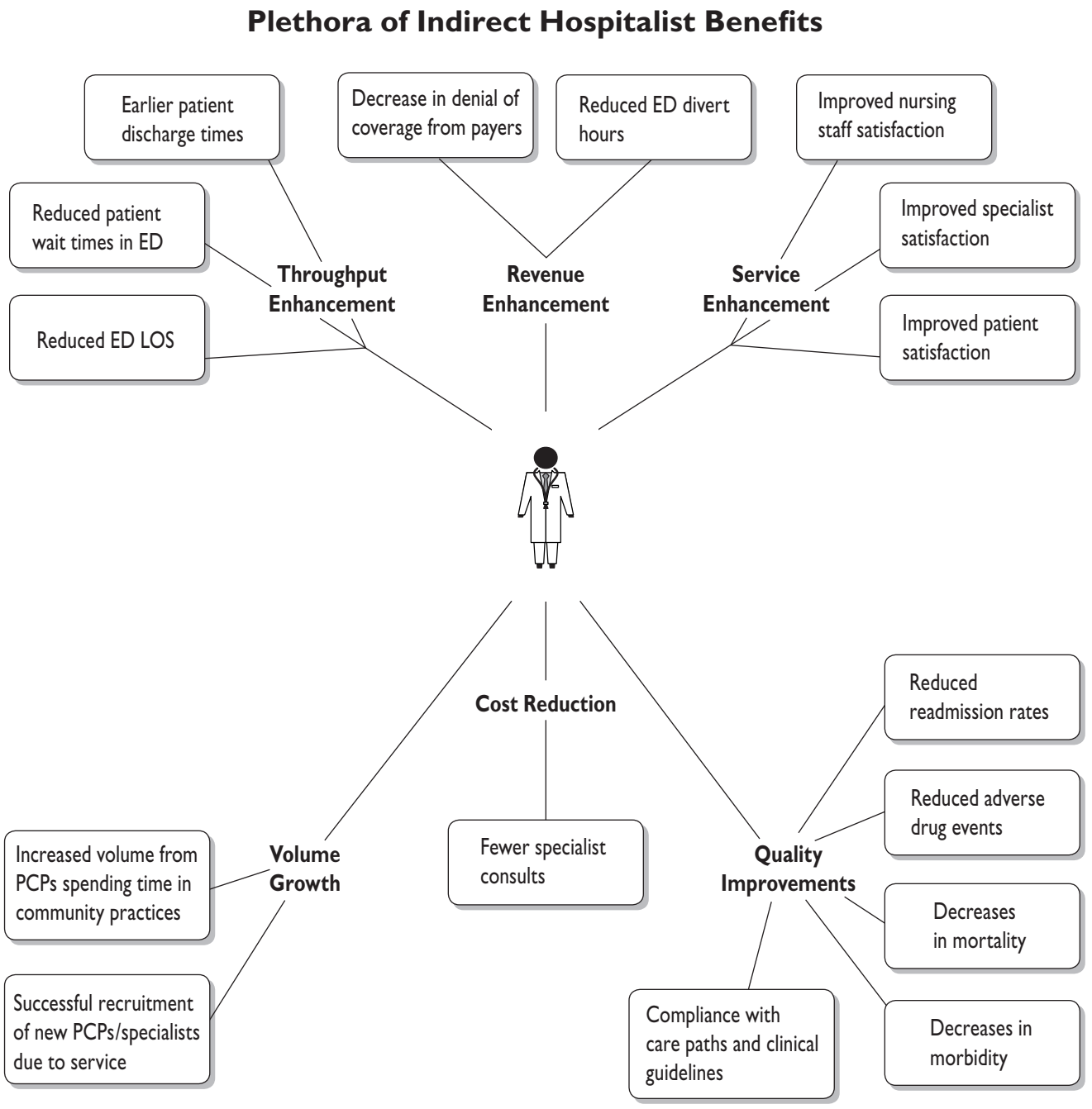
Worst Scenario (High ALOS, Low Profit)	
Maximum Predicted LOS	5
New Admissions	701
Minimum Profit per Admit	$500
Incremental Profit	$350,600

Net Hospital Gains (Range)	**Maximum Gain**	**Minimum Gain**
	$2,103,600	$1,577,700

Source: Clinical Advisory Board interviews and analysis.

Final task to "quantify" benefits of hospitalwide care process improvements

Given the central role of the hospitalist in acute care delivery, it is not surprising that the cost, quality, and service impact of their presence is widely felt. That said, quantifying that impact is indeed challenging. Arrayed below are the breadth of indirect benefits and relevant metrics worth tracking. Note that while improvements are largely qualitative (i.e., faster processes, improved satisfaction), many have a quantitative component that has an associated financial value.



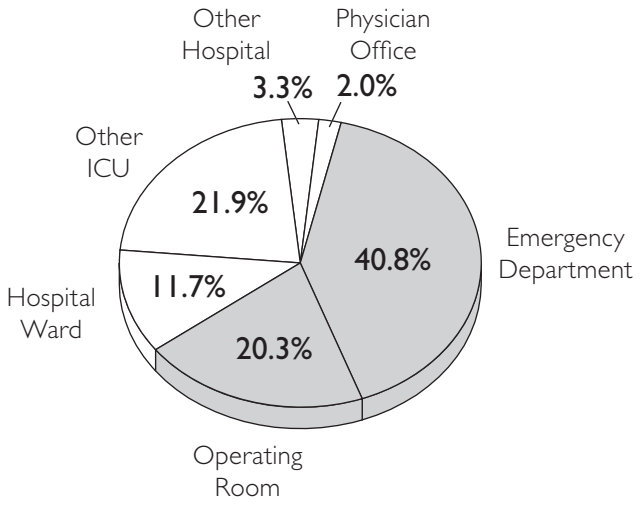
Source: Clinical Advisory Board interviews and analysis.

Case in Point: Substantial financial upside from reducing ED divert hours

Research shows that when intensive care beds are full, emergency departments (EDs) risk ambulance diversion. Absent the capacity to treat critically ill patients, hospitals must divert such cases to institutions with available beds, resulting in a loss of inpatient revenue. Johns Hopkins Hospital realized a revenue opportunity of close to 6.6 million dollars in one year by reducing the hours the emergency department (ED) is on ambulance divert.

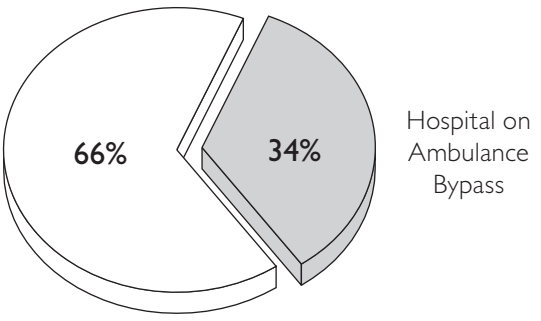
Revenue Implications of ICU Bottlenecks

Admitting Source of ICU Patients



Cost of Bypass at Johns Hopkins Hospital

Total Annual ED Hours



Doing the Math

Bypass hours per year		3,000
Lost admissions per hour on bypass	x	0.2
Revenue per hospital admission	x	$11,000
Lost revenue per year		**$6.6 M**

Source: *Future Needs in Pulmonary and Critical Care Medicine*, 1998; Pronovost PJ, et al., 2000; Clinical Advisory Board interviews and analysis.

Revised margin, with savings and supplemental revenue, shows significant positive ROI

Revised operating profits, including savings and supplemental revenue gains, demonstrate significant positive returns from implementation of the hospitalist program. While LOS savings are richest, new revenues from added cases or reduced hours on ambulance diversion should not be dismissed. Shown below, General Hospital's[1] ROI mirrors the financial health of today's hospitalist programs. The challenge for program administrators is to construct a reasonable and accurate analysis that makes the case for continued, even heightened, program support in the future.

Significant Positive ROI

General Hospital Hospitalist Program

Activity

Admissions		3,506
Consults and Outpatient Encounters		1,050
	Total	4,556

Net Revenue

Admissions		$1,141,690
Consults and Outpatient Encounters		$170,700
	Total	$1,312,390

Direct Expense

Hospitalist Salary, Benefits, and Overhead		$1,628,480
Night Coverage		$554,400
Indirect Expenses (Billing, Collection, etc.)		$172,963
	Total	$2,355,843

Gross Profit

Margin	($1,043,453)

Proposed Supplemental Revenue

Cost Savings		$1,227,100
Revenue from Increased Admissions		$350,600–$876,500
	Total	$1,577,700–$2,103,600

Revised Operating Profit

Margin	**$534,247–$1,060,147**

[1] Pseudonymed institution.

Source: Clinical Advisory Board interviews and analysis.