Making the Case for Advanced Practice Nurses

Developing a *pro forma* to define the business case model for the use of APNs

by Carol Eck, RN, BSN, MBA

In Brief

In 2008 Vanderbilt Medical Center identified oncology as a targeted growth service, and the gastrointestinal (GI) oncology team at Vanderbilt-Ingram Cancer Center was selected as one of the first areas to undergo a thorough strategic planning process. The physicians on the team consisted of medical, surgical, and radiation oncologists. A major focus of the strategic planning process was identifying how to schedule more new patient visits. Given the lead time to hire additional physicians and the decreasing pool of physician providers, we turned our attention to hiring advanced practice nurses (APNs) to partner with physicians. To gain leadership support, however, we first had to develop a comprehensive but concise *pro forma*. The purpose of this tool was threefold: 1) to educate hospital leadership about the need for these new staff, 2) to "sell" the idea about partnering APNs with physicians, and 3) to justify the additional expense. Here is how we developed and successfully put in place a sound business model for the use of APNs in our outpatient cancer center.

As our team prepared to develop the *pro forma*, we based its foundation on three basic assumptions that support an ambulatory APN practice model. The first assumption: mid-level providers are educated and trained to provide and manage care throughout the continuum, under the overall supervision of the attending physician. Second, with the reduction in residents and fellows and expansion of services, APNs are ideally situated to provide continuity of care, continuous physical presence, and adherence to practice guidelines to facilitate throughput. And finally, with the traditional resident and fellow staffing models no longer viable, we recognized that development of collaborative advanced nurse practitioner-physician teams was essential to the future of our cancer program.

Next, we defined the following value metrics as a means of measuring the success of the model:

- Continuity of care
- Constant physical presence
- Adherence to clinical pathways
- Enhance throughput
- Decrease clinic waiting times
- Decrease clinic appointment times
- Increase patient satisfaction
- Leverage physician productivity
- Assume lead position in managing walk-in patients
- Generate revenue as clinic visit billing provider
- Generate revenue as a proceduralist (i.e., by performing procedures such as bone marrow biopsies or skin biopsies).

Our team kept these assumptions and metrics at the forefront as they developed the *pro forma*. The team's focus was to keep the *pro forma* clear and simple.

Structuring the *pro forma*

Each year Vanderbilt Medical Center sets pillar goals at the institutional level that direct the work of the institution and help to measure its success. Each entity within the medical center then sets its own goals based on the organization-wide goals. These five pillars are: People, Service, Growth, Finance, and Quality. When completing a new program request, efforts are made to carefully articulate how the program fits within these pillars.

Table 1 at right illustrates key conclusions our team was able to draw from data and information about current practice patterns. The team was able to use these data to then develop a set of recommendations. The key conclusions reflect four of Vanderbilt's pillar areas:

- Finance (key conclusions 1, 2, 3)
- Growth (key conclusions 2, 5)
- Quality (key conclusions 4, 5)
- Service (key conclusions 6, 7, 8).

Our team ensured that the recommendations derived from the key conclusions were clearly and succinctly articulated so that the leadership reviewing the request knew exactly what was being requested.

At the start of this initiative, Vanderbilt-Ingram Cancer Center employed one APN as a billing provider seeing complex pain and symptom management patients. Our team used this position as a model to develop its *pro forma*. To do so, the team first conducted an in-depth review of the APN's practice. Findings from this review also contributed to the team's key conclusions. As our team developed the *pro forma*, we found it valuable to work with a billing manager to obtain data on payer mix, collection percentages, and visit mix for level of care.

Crunching the Numbers

The driving force behind our financial model was incorporating APNs into the patient management strategy to enhance the efficiency and quality of care provided to our patients. Given that this territory was uncharted and that Vanderbilt-Ingram Cancer Center had not previously used billing APNs in this setting, our team decided to err on the conservative

Table 1. Key Conclusions and Recommendations

Conclusions

1. If one billing nurse practitioner is hired, the potential incremental increase in annual collections of current volume is estimated to be $9,400. (This amount excludes subsequent return visits generated from new patient visits.)
2. Vanderbilt Medical Center and Vanderbilt-Ingram Cancer Center can achieve break-even on the salary and benefits expense Y1, providing margin for Y2 and beyond as long as the APN sees at least 10-12 patient visits per day.
3. APNs collect 80 percent of physician provider charges (Medicare).
4. APNs offer potential for improvement in patient safety regarding chemotherapy orders.
5. APNs offer potential to increase clinical trial accruals by increasing new patient volume.
6. APNs offer potential to improve emergency department (ED) efficiency by reducing ED visits for patients who could be seen in clinic by APNs for temperature, fluids, etc.
7. APNs offer potential for improving clinic throughput by reducing patient wait times.
8. APNs offer potential for expanded coverage support.
9. APNs offer potential for reducing days or weeks for new patient appointments.

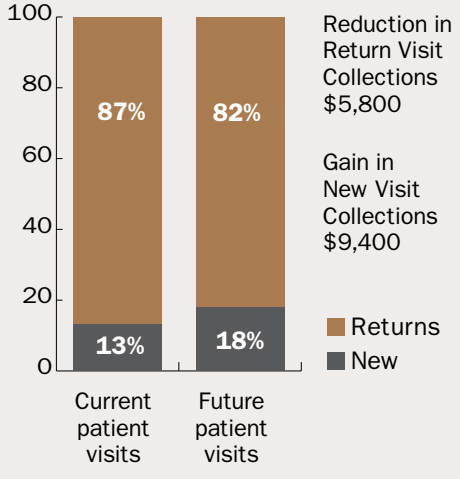
Recommendations

- Two APNs should be recruited and hired for Medical Oncology and Surgical Oncology for the GI Team as soon as possible.
- Both APNs should be billing providers and credentialed in the SOM or SON
- Each APN shall support a different sub-specialty through multiple physicians. The GI medical oncology APN will support 3 MDs; the GI surgical oncology APN will support 3 MDs.
- Vanderbilt Medical Group to cover APN salary expenses with revenues obtained through billing collections applied to offset salary expense.
- To optimize physician billing, APNs should be used for "return visits" rather than for "new visits."

Table 2. Building the *pro forma*: Increasing New Patient Visits by 3 Per Week

Physician A	**Current**	**Future**
New patient visits (percentage)	13%	18%
New patient estimated collections (dollars)	$23,000	$32,400
Return patient visits (percentage)	87%	82%
Return patient estimated collections (dollars)	$97,000	$92,000
Physician A		
Estimated current net collections (assumes collection rate from gross revenue of 59%)		$120,000
Estimated future current collections		$124,000
Estimated incremental gain (from seeing more new patients)		$4,000
APN		
Estimated future net collections		$115,000
Total Future Estimated Net Collections (Physician and APN)		**$239,000**

Figure 1. Estimated Change to New and Return Visit Collections for Physician A



side when forecasting and projecting patient volume.

Looking at one physician in the group, the team first prepared an analysis of current vs. future practice patterns. The team used a model that would increase the physician's new patients by three per week, while at the same time decreasing the number of return visits seen by the physician by about 8-10 per week. Under this model, the additional new patient visits provided higher reimbursement rates for the physician, as well as an increase in return visits for the APN. Using our cancer program's current collection rate and new and return patient visit volumes, we projected the charges generated from E&M visit codes. We then added the APN's return patient volume to calculate the total future estimated new collections (see Table 2, above).

Although the physician would see fewer "return visit" appointments, he or she would be seeing more "new visit' appointments that drive better reimbursement. Increasing the number of "new visits" coupled with the APN accommodating the existing "return visit" appointments demonstrates an incremental gain in patient visit volume and col-

Table 3. Building the *pro forma*: Increasing New Patient Visits by 5 Per Week

GI MD's are seeing between 1 and 2 new patients per week with the average of 2 patients

This brief analysis assumes incrementally only 2–3 more new patients per week

Description	Data	Estimating Factor
Target minimum new visits/week for 1 MD	5	New visits
Estimated new patient visits/year (46 weeks)	230	New visits
Number of MDs to be supported by APN	3	MDs
Estimated new patient visits per MD for 1 year	x 230	New visits
Estimated new patient visits per 3 MDs for 1 year (46 weeks)	690	New visits
Estimated minimum return visits in 1 year	4	Return visits
Estimated annual new patient visits for 3 MDs	x 690	New visits
Estimated return visits per year	2,760	Return visits
Estimated return visits per year	2,760	Return visits
Productive weeks per year	÷ 46	Weeks
Estimated minimum return visits per week	60	Return visits per week
Estimated minimum return visits per week	60	Return visits per week
APN scheduled clinic days per week	÷ 4	Clinic days
Estimated return visits per day	15	Return visits per day
Break-even Volume Required	10 to 12 Visits per Day	

lections (see Figure 1, page 29).

With this model, one critical question was: Will there be enough return visits to provide a full patient load for the APN? Currently, the GI medical oncologists were seeing between one to three new patients per week. Assuming three additional new patient visits per week, thereby bringing the total to five new patients per week, the team then developed a table to calculate how many patient visits would be needed to provide a full patient load for the APN (see Table 3, above). For one physician, five new patients per week multiplied by 46 productive weeks per year equaled a projected 230 new patient visits per year.

One of the team's recommendations was that the APN support three physicians. Using our estimated 230 new patient visits/year per physician, we projected that three physicians would see a total of 690 new patient visits per year. Assuming each new patient generates four return visits per year, the team projected 2,760 return visits per year. The total number of annual return visits (2,760) was divided by the number of productive work weeks (46) for an estimated 60 return visits per week. That number was then divided by the APN's scheduled clinic days per week (4), resulting in an estimated 15 return visits per day. Again, the team estimated conservatively, forecasting that the APN would need to see 10 to 12 patients per day to break even.

Assumptions for APN Billing

The team worked closely with the billing manager to define the collections and charges, the average visit mix, and collections as a percent of charges for the GI medical oncology practice. These numbers were then used to determine at what point the APN would break even. Table 4 at right shows the "assumptions" our team made on the left side and the "projected scenario" the team developed on the right side. When preparing the financials, it was imperative to keep in mind that the APN bills at 80 percent of the physician rate. With the goal of seeing 1,500 patients per year, our calculations show that by year two the APN needs to see about eight patients per day. Taking into consideration the learning curve and the credentialing process, which take about four to six months, you will see that we did not expect the APN's first year to be profitable. However, by year two, our team forecasted that the APN would increase in productivity and be able to break even.

Implementation Considerations

While the *pro forma* addressed the financial benefits of changing our delivery model, we had much discussion about the physicians' expectations related to bringing APNs on board. Our team believed physician involvement and buy-in would be key to the success of the APN role. The physicians would need to agree to introduce the APN to the patients so that patients would feel comfortable with this transition of care. Even further, the physicians had to feel comfortable giving up patient volume to the APN and be confident that the return visits transitioned to the APN would be replaced with new patient visits. Finally, our schedulers had to be educated to transition return patients to the APN's template as appropriate, for example, patients returning for long-term follow-up or uncomplicated chemotherapy.

The next step—recruitment. Attracting an APN with GI oncology experience would be challenging to say the

Table 4. Building the *pro forma*: The Break-even Point for the APN

Financial Assumptions	
Productivity	Y2
Patients/day	8.15
Clinic Visits/week	32.6
Productive weeks/year	46
Total Visits/year	1,500
Personnel Expenses	
Salary	$77,000
Fringe	$20,000
Total	$97,000
Collections and Charges	
Average charge/visit	$202
Average collection	$93
Average Visit Mix	
99213	8%
99214	51%
99215	41%
Collection as a % of Charges	46%

Projected Scenario	Year 1	Year 2
Visits	750	1,500
Gross Revenue	$151,500	$303,000
Collections (46%)	$69,690	$139,380
Total Taxes (17.75% of Collections)	$12,354	$24,739
Net Collections	$ 57,336	$114,641
Salary and Fringes	$97,000	$97,000
Telephone/Pager	$1,000	$1,000
Transcription	$700	$700
Computer/Printer	$2,100	$0
Continuing Education	$1,500	$1,500
Drug Enforcement Agency #	$550	$0
Total Expense	$102,850	$100,200
Margin	($45,514)	$14,441
Break Even without Taxes		
Average Collection/Visit	$93	
Annual Break-Even/Visit	1,105 (102,850/93)	
Weekly Break-Even/Visit	24 (1105/46)	
Clinical Day Break-Even/Visit	6 (24/4)	

least. The typical learning curve for an inexperienced APN is about six months. The physicians needed to agree to be the leaders during this time to provide the necessary training to bring the APN up to the level to function independently. Agreement regarding ongoing mentoring and support was essential. The physicians would also need to work with the APN during this time to establish jointly agreed upon protocols that would be required to complete the internal and external credentialing process to bill, all of which takes three to four months.

Finally, decisions needed to be made regarding transcription needs, location of office space, and integration of the APN into the clinic. The working relationships between the APN and the clinic RNs and medical assistants needed specific attention to assure success.

Key Findings

The APN we hired to work with our GI medical oncologists was a new Master's graduate with several years of nursing experience. The physicians took her under their wings and supported her orientation and training. Involving the physicians during the strategic planning process and during the development of the *pro forma* was a valuable learning experience. The physicians felt more committed to assure a successful implementation of the role for APNs as they knew they were the model and would be looked at closely.

The ramp-up period transitioning the new APN into the program was about six months. During this time, we closely monitored the patients being seen. We soon realized that the APN role opened opportunities that had been previously unrecognized. For example, prior to the arrival of the APN, unscheduled patients who were seen due to last-minute issues, such as fever, nausea, pain, etc., had been seen by a fellow and no charge was generated. Now the APN was able to see these patients and submit a charge for these services. Patients in the infusion area who came in for a treatment only but now were having a problem that needed to be assessed by someone other than the treating RN could also be seen by the APN. Another unanticipated benefit was the downstream ordering charges and revenue that come from an increase in return visits. Not only does Vanderbilt-Ingram Cancer Center benefit from increased new and return visits, the institution benefits from an increased number of technical procedures—hence more volume.

While we developed our *pro forma* using a model of four days per week, in reality, the APN is available to see patients four-and-a-half to five days per week. The APN also provides coverage during physician absences. Today the APN is an integral member of the team with the RNs in the clinic, and our cancer program is using the APN the way this professional should be used—as a billing provider.

Working with the finance manager for the Vanderbilt-Ingram Cancer Center, the team carefully tracked the patient visits, charges, collections, and technical ordering charges. The APN started billing in April 2009 and for FY 2010, the APN is on track to see about 1,200 visits with professional charges at just under $250,000. Technical ordering charges attached to this position are estimated to be more than $1.8 million. These numbers will more than cover the expense of hiring the APN. In fact, our team has just hired a second APN who will start in September 2010. Gaining approval to hire this second APN was easy due to the *pro forma* developed two years ago.

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