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Provider Service Models

**Industrial grade service for managed care
organizations**

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*An earlier version of this article appeared in the **Administrative Radiology Journal** in 1989. Mark Marcussen has assisted the original author, Jim Ayers, in updating the still relevant advice. Mark and Jim are both principals of CGR Management Consultants based in Los Angeles. Their experience spans many industries including healthcare. They have put the planning tools described here to work in multiple settings.*

Jim has a BS from the U.S. Naval Academy and MBA and MS degrees from Stanford. Mark has BS and MBA degrees from UCLA. Over several years, they jointly performed multiple assignments in the managed care industry. They also consult extensively to clients in other industries undergoing fundamental change.

Because of developments over the last decade, along with the current debate over costs and service, healthcare may be on the verge of becoming a regulated utility. This may appeal to a patient population inundated with anecdotes related to costly cost and careless care. It may also resonate with law makers who look for quick and pleasing solutions. But providers are trapped in the middle. They are now subject to unprecedented practice oriented and financial pressures and to the types of jokes previously reserved for lawyers and politicians.

The patient, as a consumer, has also become more demanding and articulate. This has altered the balance of power. The provider is no longer the primary party of influence when medical services become commodities. The consumer, rather than the provider, defines the level of value. Somehow, the provider system, just as any other segment of the economy, must respond to philosophically new and operationally different pressures.

Providers need proactive strategies to survive professionally and to prosper financially. A part of that strategy includes operational opportunities. While the medical contribution can only be measured by outcomes in the form of pre and post conditions, overall patient satisfaction continues to include many other factors. Absent trauma, these are mostly nonmedical. Examples include timeliness, personal attention, courtesy, and even the availability of parking. Many providers demonstrate their understanding of this by conducting post encounter surveys. But how do they follow up?

Operational effectiveness has been an essential factor in the recent success of American industry. Unlike services, manufactured products have been wide open to global competition for at least a decade. So, to stay in the game, industry after industry has had to adapt.

The operational effectiveness technique described here is an adaptation of techniques used in manufacturing. The primary vehicle is a model that allows proactive management of both service and financial results. The result is a different way of managing. Underlying it is a new paradigm. The table below adapts the old and new paradigms faced by industry to today's healthcare situation.

Old Paradigm	New Paradigm
Operations are a cost; they offer no competitive advantage.	Well designed operations are an opportunity for competitive advantage.
Individual medical functions are the focus for organizing.	Customer serving processes are the focus for organizing.
One must be full service to succeed.	Excellence in focused services is best.
Budgets provide operational control.	Provider service models provide operational control.

Our discussion here of provider service models asserts that the process of building the model is a starting point for making the transition from the old to the new paradigm. Because of competition, budgets are no longer sufficient for operational control. Standards for customer service are now essential.

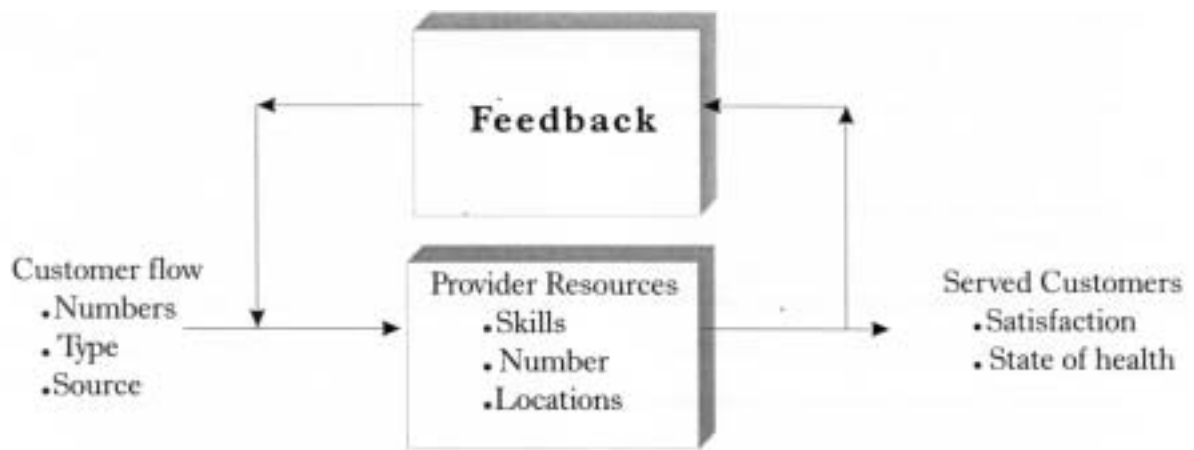
The Basic Model

If you are a healthcare manager, you probably use some form of service model even if it lacks the formality we recommend here. The model encompasses your organization's budgeting processes and debates over staffing. It also incorporates less formal mechanisms like anecdotes exchanged over coffee. It guides your decisions about staff, facilities, and the price of your services. It helps you monitor how well you perform financially at least to the extent it reflects known costs. When you deviate from your notion of adequate service and your norms for quality of care, patient satisfaction, or profitability, you use your model to make adjustments.

If your organization is small, you can probably do this informally. If you're in a larger organization, you need formal processes. And consolidation in healthcare means fewer but bigger organizations. The drive for this consolidation includes Wall Street, overcapacity, and managed care growth. The use of a provider service model, as we define it here, is an increasing necessity as medical care businesses consolidate.

The figure below shows the basic model. It is deceptively simple. The input and output of the model is the flow of patient/customers. Providers serve them. Service outcomes can be loosely measured by the continued health of the provider's population to the extent the provider is aware of it.

The feedback loop, which can rely on a variety of information resources, uses performance measures to reflect the internal success of the activity. Depending on the type of service provided, customers and providers will be of many types. Hospitals primarily serve inpatients; clinics serve outpatients; medical record centers serve physicians and nurses; telephone centers make customer appointments and answer inquiries. Other feedback mechanisms include perceptions of patient/customers as well as internal providers with regard to quality, service level, wait times, profitability, and repeat business. Healthcare organizations in the competitive environment should model these factors formally and adjust resources accordingly.



A model is also instructive in making strategic and tactical choices. This can apply to the design of medical and support services provided, their geographic location, and the types of facilities required. Is it reasonable to provide ultrasound diagnostic services at an office that is located less than a mile from a full service hospital? How comprehensively should a small medical clinic be in providing health screening and how could it use a specialized facility for routine support of physical examinations?

Finally, there is the issue of cost effectiveness. In the detail, many medical practices and healthcare services have much more work to do. Consolidations do not bring cost effectiveness by definition. At times they merely combine ineffective operations and multiply that ineffectiveness by aggregation. Analysis and reduction of costs ranging from the appointment process to the relationships with other support staff will change the life style of many professionals. This is the price of survival

In summary, there are many reasons to implement the basic model. These include the following:

Inject objectivity into decision making. A model transforms decisions regarding staffing and physical resources from emotional, intuitive judgments to objective business decisions.

Support strategy decisions. A model influences decisions to contract services, expand or outsource, and whether or not to stay in a particular business. Provider service models can be the foundation of activity based costing. This technique improves the visibility over costs for servicing the patients/customers. In this role, model data supports decisions on continuing services and measurement of profitability from multiple activities.

Position the business. The output enables managers to make conscious tradeoffs in cost or service. These will match the needs of the chosen market and the customers' willingness to pay. This is essential in decisions to tailor the organization's focus on specific ~ services or markets.

Point to bottlenecks. Managers can better identify the service constraints that irritate both customers and providers. Often, low cost solutions to bottlenecks provide quantum jumps in service level through re-engineering and process redesign.

Cut costs. Traditional staffing patterns won't work in an era of managed care. Provider service models use techniques that are time tested in competitive markets. Resources wasted in one area can be directed to areas of need.

Assure quality. Unbalanced provider resources creates overwork and haste. The risk

Model Fundamentals

The provider service model, properly applied, will position the precise resources needed to match customer flow to the desired quality level. As a result, patient satisfaction will be higher; service quality (as measured by the patient's state of health) will improve; and the business will meet its financial goals. The table below lists a few of the healthcare services that should be included in a provider service model.

Service Provider	Affect on Customers	Affect on other providers	Measurability
Physicians	Medium	Low	Low
Paraprofessional	Medium	Low	Low
Nursing Support	High	High	Medium
Equipment	High	High	Medium
Outpatient/Inpatient facility	High	High	Medium
Receptionists	High	Medium	High
Appointment centers	High	High	High
Chartrooms	Low	High	High
Administering Staff	Low	High	High

Provider resources range from physicians to support staff. Facilities coverage encompasses equipment, operating rooms, and examining rooms. A 40 patient day obstetrics service needs more examining rooms than a 15 patient day medicine service. Service bottlenecks often occur in the back office. This includes accounting, appointment making, and chart rooms. How positive is the overall experience for a patient that spends two hours being "checked in?"

Two columns show, for each service, the relative potential for dissatisfaction. The source of this dissatisfaction maybe the patient/customer or other providers who depend on the service. For example, patients may only be moderately sensitive to physician medical skills. Hence a "medium" affect. But

the patient may measure service by the attitude of supporting players who deliver little or no healthcare noted with a "high" affect.

On the other hand, patients may have little concern for the workings of the chartroom while doctors and nurses do. And dissatisfaction with the back office operation work to lower the quality of patient care.

The right hand column in the table is the "measurability" of quality and quantity outputs. High measurability means an analyst can easily determine quantity and quality. This fits repetitive work requiring little judgment. Where more judgment and variation are present, measurability goes down. Finding good ways to measure the hard to measure is essential to building provider service models.

When to Use Provider Service Models

How can a manager know whether to proceed or not? Here are some of the criteria that indicate the need for a formal model.

Fluctuating workloads. If there is a cyclical pattern to workload, a model will "tune" resources to those fluctuations. The patterns may be daily, weekly, monthly, or even annual. Matching provider resources to workload reduces operating expense at slack times and improves service at peaks.

Multiple skill levels. An organization can grow through market share gains or through consolidation. As it does, it reaches a point at which a "division of labor" makes sense in many functions. It is no longer economical for higher skilled staff to do routine, low skilled work. This may have made sense in the small operation where "everyone did everything." But in larger operations, this approach wastes scarce skills. The model will match workload with skill levels.

Reorganization. In a managed care environment, competitors seek advantage through dramatic restructuring. Examples include decentralizing for better service, centralizing for

efficiency, or competing as "focused" businesses specializing in a narrow service. There are many examples of this today as the managed care dollar divides between generalist gatekeepers and "carve out" specialists dominating market niches.

Reengineering. Model building will uncover process improvement opportunities. Teams will not want to use "as is" methods when a better way is obvious. The effort plainly complements process reengineering.

Improved flexibility. Some organizations exert financial control through ratios. A frequent example is the number of support staff to doctors. With physician schedules varied in terms of time in the office, work slows at some points for the support staff. If management desires flexibility to move people from place to place, a model will point out how.

If one or more of these conditions exist in your organization, then the provider service model will be a useful tool. But how do you start? The next section describes the work involved.

Building the Model

Building a provider service model requires three tasks: define the workload, measure patient flow patterns, and develop activity times. Descriptions of the tasks follow. Once a team has completed the initial design, pilot testing and implementation should follow.

Define the workload

Each of the provider functions listed earlier involves a multitude of day to day tasks. An obstetrician performs inpatient rounds, surgery, outpatient services for GYN and OB patients, and on call duty. A radiology unit will perform hundreds of separate procedures.

But defining the major activities of a work group need not be overly complex. We have found that the best models use 5 to 10 major activities that account for 70 to 90 per cent of the workload. Grouping other activities (10-30 per cent of the work) won't introduce significant error.

A team of people from the work group should prepare the list. The team should also set service goals for each activity. This is a major decision. Models will fail if the resultant staff level is insufficient to fulfill the service mission. Some example service goals include:

- *Have walk-in patients wait no more than half an hour for service.*
- *Answer 90 per cent of calls within three rings.*
- *Provide appointments for physicals within 30 calendar days.*
- *Deliver 80 per cent of charts to requesters within 30 minutes.*

With a service goal, managers can generate a "report card" on their organization's performance. A sampling of customer encounters should show whether one is passing or failing.

For example, consider the chartroom goal of delivering 80 per cent of charts in 30 minutes. A sample may show only 20 per cent arrive in that time. This should trigger a look at chartroom operations to see if bottlenecks exist. If not, managers should staff more providers during peak periods.

Measure customer/patient flow patterns

The volume of patient/customer demand flows drive the work of the healthcare business. It's important for managers to understand patterns in that demand. Depending on the type of provider, there are several ways to measure demand for a service. These include:

- *Receptionist stroke tally.*
- *Automatic counters on telephones.*
- *Appointment logs.*
- *Request for service, financial and accounting documents.*

Using the Model

The manager now has a tool for setting staffing levels. Patient flow and time target information yield a provider requirement by activity. The staffing table is one convenient format for relating

This data should represent a cycle for the business. A cycle might be a day, a week, a month, or even a year. There may be seasonal fluctuation like the flu season. Or there may be weekly patterns for example, heavy traffic on Monday and Tuesday.

Measurement of service demand may seem to be a daunting task. Supervisors may not want to add counting to already heavy workloads. But the process need not be lengthy. Often a week is sufficient when supported by other documents to capture seasonal or monthly fluctuations.

Develop activity times

The final task is estimating how long a provider needs to deliver the services defined in the first step. The model building should keep the number of activities to a manageable size. For example, in the case of nurses working in an outpatient facility, 10 activities could make up 70 per cent of the work. In some clinic operations, the provider service models have used a single measure of activity-the patient visit.

The approach to developing time targets varies by provider. In the provider table, measurability ranges from low to high. The best way to assure acceptance is to have providers participate in model building. This is particularly true for groups with low measurability

expected demand to provider resource. The following table is an example of a telephone receptionist function.

Staffing Table

Flow/Demand (Calls/hour)	Providers
10	1
20	1
30	2
40	2
50	2
60	3

The supervisor of this area staffs in half-day segments. The heaviest traffic is Monday morning with a peak of 60 calls per hour (circle). The lightest is Friday afternoon with a peak of 20 calls per hour (square). The supervisor using

the table can budget and staff for three receptionists on Monday morning and one on Friday afternoon. This may be difficult, but having part time staff or shifting full time staff will improve service.

Conclusion

The most difficult obstacle to implementing provider service models is cultural. Most healthcare professionals are unaccustomed to modeling techniques. They may feel that the approach smacks of stopwatch, shop floor, nonprofessional work. But such models are increasingly important to the service economy, and adapting methods from industry should make life easier, not more difficult.

Few doubt that healthcare budgets are tightening. Also, overcapacity creates intense service based competition for customer/patients,

The squeeze will be particularly acute for first level supervision. They make the budgets and endure customer complaints. While the model will not change this, it will help managers make better decisions and deal with conflicting realities.

Provider service models ease the discussion of staffing levels, businesses to be in, how to improve, and the level of service to provide. The organizations that use provider service models will increase care quality and level of service while improving the satisfaction their people have in supplying that care.