Meeting the Challenge of Costing Hospital Service Desk Operations

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About the Authors

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The Importance of Service Desk Cost Analysis

Increasingly, hospitals are recognizing the necessity of incorporating a dedicated Service Desk\(^1\) within their IT services. The growing number and complexity of systems required in healthcare delivery, including new EMRs, has dramatically increased the need for more support, including faster response and round-the-clock availability.

Service Desk operations, if not managed properly, can become alarmingly expensive. It is more important than ever to have a clear understanding of the total cost of all the services provided by your Service Desk, to make sure it is cost-effective.

When confronted with the task of estimating the costs actually incurred by Service Desk Operations, many IT leaders think only of the obvious: staff, software, and hardware. Our experience is that many IT leaders may not have the experience, time, or access to the additional data required to develop a more thorough analysis of their actual costs.

In this paper, we will identify several key contributors to hospital Service Desk costs. In addition, we will present a framework for their estimation and analysis. Finally, we will present an example analysis for a typical 300 bed hospital, based on our several years of experience as a healthcare Service Desk provider.

\(^1\) The terms help desk and service desk are sometimes used interchangeably. Some authors make a distinction between the two. We use the term service desk, but also define its function in a hospital setting.
Service Levels’ Relevance to Costs

Exhibit 1 contains definitions of three levels of service commonly used in analyzing Service Desk operations. Many Service Desks do not perform all of the Level 1 tasks, but clearly all those tasks do need to be performed. If the Service Desk is not resolving a particular Level 1 problem, someone else has to – usually, higher cost analyst staff, vendor support staff, or hospital staff. Handling and resolution by most, if not all, of these alternative resources is more expensive than if handled by a well-trained Service Desk agent.

Exhibit 2 displays the average cost per ticket by service level to resolve a service request (across all industries in the U.S.) as estimated by HDI (Help Desk Institute). Clearly, the cost per ticket should be lower for Service Desks only handling Level 1 service requests. Note that some Service Desks handle some Level 2 tickets and their costs would be expected to be higher.

<table>
<thead>
<tr>
<th>Exhibit 1 – Service Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1</strong></td>
</tr>
<tr>
<td>• Receive calls from users</td>
</tr>
<tr>
<td>• Create and close tickets</td>
</tr>
<tr>
<td>• Resolve issues or escalate issues to Level 2 or 3</td>
</tr>
<tr>
<td>• Maintain a single point of contact with user</td>
</tr>
<tr>
<td>• Track and monitor a ticket to closure</td>
</tr>
<tr>
<td>• Respond with own knowledge or consult Service Desk’s knowledge base</td>
</tr>
</tbody>
</table>

Generally definable actions that can be handled remotely. | Require greater level of interaction with the applications or may require a desk-side visit. | Generally can only be provided by the most senior client staff, or by escalation to the vendor team. |
Costs Incurred Outside of, or Before, the Service Ticket Process

Many issues that require Service Desk tickets often do not, at least initially, begin receiving attention by the Service Desk. Users with a problem may not initiate a ticket via a contact with Service Desk staff. Medical and other hospital staff may first spend time trying to solve the problem themselves. And/or, they may find it more convenient to involve a co-worker or associate in trying to resolve their IT problem. If the co-worker cannot assist, a common strategy is to call a favorite IT staff member who has helped in the past. Exhibit 2 visually shows this process. These tactics are often a time waster, and if habitual, create more cost for the hospital than originating a ticket with the Service Desk. Hospital staff co-workers or favored IT staff members who become involved are likely to be more highly paid than Service Desk agents.

Exhibit 2
National Average Ticket Cost by Service Level

Cost* Per Ticket by Level

- Level 1 Support: $15
- Level 2 Support: $22
- Level 3 Support: $30

*Average cost of resolution of ticket per level of service. US providers only. All industries. Source: Help Desk Institute, 2013 Survey of Service Desk Costs and Salaries
An important ramification of using such “shortcuts” is that if these service needs are resolved outside the Service Desk, associated tickets are not created. As a result, Service Management staff doesn’t get vital data into the ticketing system that is needed for analysis and development of standardized or improved solutions (when necessary). The relevant costs will be missed when performing standard cost calculations. We will discuss these hidden costs later in this paper.

**Defining True Costs**

If a healthcare organization wishes to understand how much it is truly spending on its Service Desk operations, the first step is to recognize and consider some important differentiations between:

- Immediate or “obvious” costs,
- Frequently overlooked and less direct costs, and
- Indirect “hidden” costs.

**Obvious Costs of Service Desk**

When attempting to estimate Service Desk costs, “obvious” costs are those basics that are immediately at the top of mind. They include:

- **Salaries of Service Desk staff**: This includes salary plus fringe benefit cost. For most purposes it should be acceptable to use the hospital-wide average benefit cost as a percentage of salary.
- **Software purchases**: The most frequent software expenditure is for ticket management. Exact pricing varies by vendor, with a wide variation. If software is purchased as a one-time expenditure, it may be amortized over the estimated life of the software.
- **Software maintenance**: This usually is a one-time annual cost associated with the ticket management software. Depending on hospital accounting policy it may be amortized over a twelve-month budget.
- **Hardware purchases**: Hardware could include desktops, laptops, monitors, servers and telecommunications equipment. Note that busy Service Desks put technology equipment to hard use; to provide needed support, agents’ own equipment must be in tiptop shape.
- **Communications costs**: This includes phone service and Internet costs. If other paid services such as remote hands-on troubleshooting, conferencing, etc., are used, these costs should be included.

Budgeted or actual expenditures are usually readily available. However, if the Service Desk does not have a separate budget, or its expenditures are not reported separately, computing these may require unexpected work. The results may well be worth the effort.
Frequently Overlooked Costs

It is common that some less obvious costs than those described above, are overlooked. This could be because of oversight or lack of awareness, because they are not budgeted or reported as part of IT department expenditures, or are reported elsewhere in hospital financial statements. These can have a significant impact on understanding the real cost of operating a Service Desk.

• **On-call and overtime pay:** Many hospitals, particularly small ones, do not have a staffed Service Desk after normal business hours, e.g. night and evening shifts. In these situations, IT service requests frequently must be handled by on-site or on-call analyst staff. In these cases, such staff, who are already more highly paid (usually) than Service Desk staff, are paid a premium, either in the form of overtime, or on-call pay. This type of pay is usually budgeted and reported as incurred. If Service Desk staff are put on-call at home, they are typically paid some form of overtime or on-call premium.

• **Furniture and equipment:** Depending on hospital policy, this is a capital expenditure. Many hospitals do not budget or report depreciation of furniture and equipment at the department level or in sufficient detail to impact Service Desk cost reports. Also, and as noted earlier, busy Service Desk staff put their small, immediate environs to hard use. It is not uncommon that furniture, carpeting, and other office items must be replaced more frequently than in departments that get less constant wear and tear. While such maintenance items are always a matter of discretion, factors in working conditions, such as ergonomics, physical comfort, and usability impact morale and even turnover. Of course, expenditures in this area become very visible if the hospital is creating a new Service Desk operation.

• **Space or rental costs:** In many analyses, space costs are ignored or taken for granted. Most hospitals are short on space and in many cases rent space off-site. The space taken by the Service Desk is a real cost, and could be used by other hospital functions which may directly, or indirectly, cause the hospital to incur additional space costs. If the organization does not have a planning estimate for space costs, including potential expansion, recent rental costs for space can be used as a foundation to estimate appropriate costs.
Frequently Overlooked Costs (continued)

• **Utilities:** Electrical, heating, or air conditioning costs are frequently not considered or reported as part of departmental costs. Service Desks commonly require additional air conditioning, because of the large concentration of staff and equipment located in a relatively small space. This can be surprisingly expensive.

• **Training:** Initial new hire training costs and ongoing training of Service Desk agents are necessary for high productivity and quality performance. Some of the costs may be direct, based on labor costs; lack of sufficient training can create less obvious costs, in terms of unmet SLAs. Certifications, such as ITIL (Information Technology Infrastructure Library) are often required of key staff; the attendant training (usually externally-sourced), and actual certification costs will be incurred.

• **Recruiting:** Turnover is often higher in Service Desks than some other departments, partially because the agent’s job is an entry-level position, or one or two steps above. In addition, experienced healthcare Service Desk agents are increasingly in demand. Managers must expect that a certain level of turnover, as well as expansion of operations, will require recruitment of additional Service Desk agents and management. These efforts are normally made by the HR Department without a direct allocation to the IT Department. However, if a search firm is used these costs are identifiable and should be covered in Service Desk costs.
The Hidden Costs of External Problem Management

Certain costs incurred by the hospital staff and IT staff members who get involved in IT problem resolution, are also costs of the Service Desk. Exhibit 3 displays how common related behaviors would normally precede or replace a contact with the Service Desk.

- **Self-Solution**: It is normal human behavior for a hospital staff member to try resolving his or her problem before seeking help. However, a balance must be struck by the staff member between the time personally spent working on the problem and, eventually, contacting the Service Desk. Frequent and lengthy attempts at self-solution are costly – and also may be a signal of user perceptions that the Service Desk will not, or cannot, solve the problem.

- **Involvement of other IT staff**: IT staff, other than the Service Desk, often become unnecessarily involved in problem resolution in a number of ways. Many users, through experience, have their favorites, or “go to” people among the IT analyst staff, or even IT leadership. Accordingly, the user may frequently contact this person instead of the Service Desk. Analyst salary cost is normally substantially higher than Service Desk agent salary cost. The above-described behaviors result in an unnecessarily high problem resolution cost, particularly if the problem would not have merited eventual analyst intervention.

- **Involvement of other hospital staff**: Co-workers of hospital staff, other than IT staff, are often pulled into IT problem resolution by a frustrated user. This can be a formal or informal approach. On the formal side, many hospitals designate “super users” who are trained for problem resolution. This role is usually accommodated within budgets. On the informal side, hospital staff may identify co-workers as system savvy and consult them for problem resolution. These individuals typically have a higher salary cost than Service Desk agents, and their time “helping” is most likely an unbudgeted and hidden cost to the hospital.
Exhibit 3
Solution Attempts Before Service Request Submission

Technology Disrupts Users Work

User Tries Self-Solution

Opens a Ticket
Level 1 Support → Level 2 Support

Opens a Ticket
Level 1 Support → Level 2 Support

Opens a Ticket
Level 1 Support → Level 2 Support

Opens a Ticket
Level 1 Support → Level 2 Support

Contacts “favorite” IT Analyst
Level 1 Support → Level 2 Support

Gives Up Until Problem Escalates
Level 1 Support → Level 2 Support

Opens a Ticket
Level 1 Support → Level 2 Support

Opens a Ticket
Level 1 Support → Level 2 Support

Opens a Ticket
Level 1 Support → Level 2 Support

Opens a Ticket
Level 1 Support → Level 2 Support

Opens a Ticket
Level 1 Support → Level 2 Support

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The Hidden Cost of Poor Usage of Service Desk Technology

Many of today’s best Service Desk solutions include a wide spectrum of features – some valuable, others more in the bells and whistles category. Too many hospitals purchase expensive software without utilizing modules or capabilities that may directly relate to the Service Desk’s performance and/or costs. This may occur if Service Desk leaders do not have a mandate to optimize their usage of the software. They also may not understand how to work these features to their advantage; or just don’t have the time to learn, set up the related processes needed, or perform the agent training that would be required.

Examples of useful features that can impact your Service Desk’s bottom line are:

- **Automated escalation and routing rules:** Automated rules require a great deal of time and effort to set up and maintain, but they are imperative to operating an efficient Service Desk.

- **Self-service portal / Knowledgebase:** Having the proper documentation in an easy-to-access location can greatly reduce the number of contacts made to the Service Desk.

- **Performance management:** Defining the performance and metrics you hope to achieve is a must for any Service Desk, and most Service Desk tools will help you better understand the real-time performance of the Service Desk if configured properly.
How to “Plug In” Hidden Cost Estimates to the Analysis

By definition, hidden costs are hard to find. However, it is not impossible to make educated estimates, even when hard data is not readily available. This aspect of analysis requires creativity and an understanding of the hospital’s user population, including what modes of communication will provide reasonably adequate data.

Methods we have used include providing well-constructed “easy” online questionnaires to groups of key users. These incorporate questions concerning the frequency and time spent on self-solutions, getting the aid of co-workers, and hunting down favorite IT friends. We address issues such as lack of confidence in the Service Desk, poor experiences, off-hours unavailability, and related concerns.

Another approach is conducting targeted interviews with representatives of key user groups and IT analysts that home in on quantifying how much time is being spent inappropriately on issues that are in the Service Desk’s purview. Sometimes, an approach as simple as conducting a lunch-hour group debriefing of key users can also be used to help make educated cost estimates.

Also, if the Service Desk operation is making inadequate use of its software products, we recommend that time be taken to get a full demo of the system’s capability, with the Service Desk manager in attendance. Working with the vendor representative, it should be possible to determine if there are software capabilities that could be utilized that would reduce costs (and which, unused capabilities are generating costs).
The items described above are the key elements of a framework for analyzing the cost of Service Desk operation. Some hospitals may not incur some of these costs. Some costs may be contained in hospital wide allocations and cannot be easily estimated. In these cases, some surrogate measure should be used as a basis for estimation.

Exhibit 4 displays the costs associated with an in-house Level 1 Service Desk in a typical 300-bed hospital. Estimates are based on our prior client experience. We have assumed a contact volume of 1200 tickets per month. We also have assumed a staff of 4 FTE’s with one of these being a manager. We estimate an annual turnover rate of 25 percent. We also assume that the after-hours service requests are handled by on-call agents. The consequent average cost per ticket is $23.

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Annual Costs</th>
</tr>
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<tbody>
<tr>
<td>Salary</td>
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<tr>
<td>Fringe Benefits</td>
<td>$41,400</td>
</tr>
<tr>
<td>Overtime / On-Call Pay</td>
<td>$10,400</td>
</tr>
<tr>
<td>Amortized Software Cost</td>
<td>$10,000</td>
</tr>
<tr>
<td>Software Maintenance</td>
<td>$15,000</td>
</tr>
<tr>
<td>Amortized Hardware Cost</td>
<td>$1,440</td>
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<tr>
<td>Amortized Furniture and Equipment</td>
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<tr>
<td>Space Cost</td>
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<tr>
<td>Utilities</td>
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<tr>
<td>Training</td>
<td>$6,000</td>
</tr>
<tr>
<td>Recruiting</td>
<td>$9,000</td>
</tr>
<tr>
<td>Analyst Cost of Handling Level 1 Requests</td>
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</tr>
<tr>
<td>Self-Solution</td>
<td>$3,040</td>
</tr>
<tr>
<td>Other IT Staff</td>
<td>$5,160</td>
</tr>
<tr>
<td>Other Hospital Staff</td>
<td>$4,560</td>
</tr>
<tr>
<td><strong>Annual Total</strong></td>
<td><strong>$334,708</strong></td>
</tr>
</tbody>
</table>
Conclusion

When confronted with the effort of estimating the cost of their Service Desk operation, most hospitals include obvious costs and ignore the rest. One reason for this is that it can be difficult and time-consuming to estimate some costs or even become aware of hidden costs. Nevertheless, these costs should be considered when estimating the true cost of Service Desk operations. They can also be instructive in evaluating the specific costs associated with after-hours tickets vs. tickets created during standard business hours. Many smaller hospitals find that the costs of overtime or on-call pay (plus the wear and tear on their analysts providing the service) are significantly higher, and often indefensible.

Trending...the Next Step to Great Service Desk Value

Once an initial methodology has been developed to capture true Service Desk costs and create an analysis that is robust and exact, the road to making improvements in Service Desk budgeting and – most importantly – performance will become much clearer.

However, a one-time costing effort is only as good as the remediation efforts that follow. Assuming needed improvements are implemented, “trending” should become a watchword. Regular performance management and repeated cost analyses can greatly aid IT executives in producing trending information that can impact both short-term and long-term planning, in order to continuously improve the overall value provided by the hospital’s Service Desk.

Contact Us With Your Service Desk Questions

Phoenix provides on-shore healthcare-only Service Desk services, both 24x7 and after hours only. In addition, our Service Desk experts are ready and willing to answer your questions and consult with you on the best strategies for optimizing your IT support efforts.

Phoenix has provided dedicated Service Desk support to hospitals for over seven years, and is committed to achieving the maximum in client satisfaction.

• Our consistent average cost per ticket is $12 per ticket.
• Our percentage of First Call Resolution for Level 1 services is over 95%.
• Our average Call Abandonment rate is under 8%.
• 90% of all Service Desk calls are answered by a live agent within 30 seconds.
• Our Service Desk is experienced with all major healthcare vendor platforms.

If you believe you may benefit from guidance in your Service Desk efforts, please contact us.