

# Merging GPK and ABC on the Road to RCA

**Toronto's Hospital for Sick Children** has successfully implemented the first part of a new accounting system that provides relevant information for its operations managers to use on the job.

BY BRIAN MACKIE

When was the last time an operational manager had good things to say about the accounting system at your organization? The operational managers at The Hospital for Sick Children in Toronto are impressed with their system because it provides useful and relevant information for their jobs. Part of the system is Grenzplankostenrechnung (GPK). This hospital has merged elements of GPK with elements of activity-based costing (ABC) to form a made-in-North-America solution, crystallizing the management accounting benefits that Paul A. Sharman, president and CEO of the Institute of Management Accountants (IMA®), and others have documented.

While we've all heard about GPK in theory and how it's a common methodology in Germany and other parts of Europe, it's time to hear about how it's working in North America. This article will detail our hospital's experiences. I will also show a significant benefit that hasn't received much attention: the benefits of GPK/ABC for nonaccountant operational managers.

## THE HOSPITAL FOR SICK CHILDREN

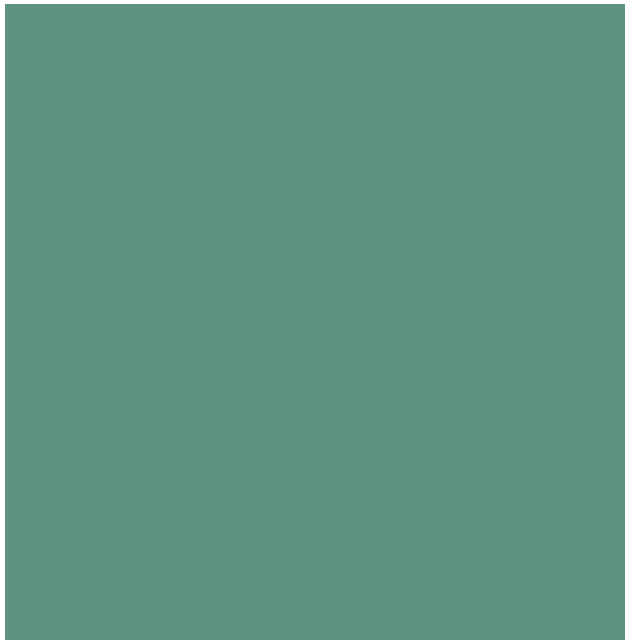
Toronto's Hospital for Sick Children, affectionately and more commonly known as "Sick Kids," is the largest children's hospital in Canada and a world-leading pediatric academic health science center that provides not just patient care but cutting-edge research and teaching as well. Patient volumes total 15,000 inpatients and 237,000 emergency and outpatients annually. Staff from approximately 60 different departments, all specialists in their own field, interact with one another to provide the best healthcare possible.

The provincial government funds hospitals with a fixed dollar amount, mandating that they provide appropriate services with this funding. Government also mandates a primarily top-down approach to costing of services that has only limited benefits in terms of operational management to hospitals.

The organizational structure at Sick Kids lent itself very well to the German model, i.e., one where operational financial management is viewed with at least as much importance as corporate financial accounting. At Sick Kids, there's a decentralized financial management structure. Corporate finance is responsible for statutory reporting, but operational finance groups are responsible for working with operational managers in business decision making. This compares well with the German model, where the "controlling" function is separated from the financial accounting function.

Even with this decentralized structure there were operational financial management problems, partly because of the standard financial reports. These reports, which contained almost no activity data, mirrored the hospital's external financial reporting format, and nonaccountant operational managers found them very difficult to understand. When a manager needed a business analysis for a decision, the analysis was prepared ad hoc because the standard monthly reports didn't give the manager enough useful information to make the decision in an informed way.

No surprise, when the new system was proposed, a comment from one operational manager succinctly



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summed up the benefits: "You mean the financials will actually look like how the department operates? Wow!"

## A NEW APPROACH

Rather than rely solely on a top-down approach, some areas within Sick Kids previously piloted ABC projects in an attempt to get a truer picture of actual costs that went into providing specialized pediatric patient care. But these projects met with only limited success, primarily because the areas attempted to maintain two completely separate systems, one for GL/financial reporting data and one for the ABC pilots. With other priorities presenting themselves, the doubling of effort required to maintain

this data meant that it was only a matter of time before the ABC pilot data became out-of-date and useless.

Yet the bottom-up approach is clearly still valid, so when the GPK-inspired idea of matching cost centers within the GL to discrete resources and related activities/ outputs presented itself, we grabbed it with both hands. It presented the answer to our key problem with ABC because it addressed the issue of maintaining two separate systems and also focused on resources and capacity—not simply expense. In fact, it's a fundamental principle of GPK that general ledger information is constructed in a way that directly supports management reporting. What could be more appropriate? GPK's success in Europe for more than 40 years only added to the credibility of this "new" approach.

While ABC has activity as the locus of control, GPK has resources consumed as the focal point of the analysis. Capacity, consumption, planning, and control all focus on the organization's resources—not the activities performed. Resource pools are created based on resource characteristics, and then these resource pools are driven to cost objects based typically on very discrete units, such as hours or minutes spent.

In the case of Sick Kids, the building of a detailed resource pool, cost-object-based structure wasn't practical. A hybrid ABC/GPK system was required to satisfy the need for better financial information for decision making while not overburdening either managers or the enterprise resource planning (ERP) system employed.

Consequently, a hybrid structure was created within the GL where costs and resources were matched with activity-centered outputs. This caused an exponential increase in cost centers (the inability of the information technology solution to accommodate multiple resource pools for one cost center—a standard GPK practice—contributed to this increase). At the same time, it also caused an exponential increase in the understanding of the relationship between activities performed and cost.

## IMPLEMENTATION STRATEGY

Because of the time investment involved, we split the implementation into two stages: (1) Set up new GL structure with key indicators, and (2) split fixed/variable costs within the new structure.

### Stage 1 included the following steps:

- ◆ Assess activity structures and drivers within pilot departments based on how the operational managers manage their business.
- ◆ Build the cost center structure on this basis.

- ◆ Reassign payroll and supply item charges to match the new structure.

- ◆ Build reports to give cost center managers the new activity-driver-based view of their operations.

### Stage 2 will include these steps:

- ◆ Verify fixed/variable cost components and interdependencies, and build reporting and decision-making capabilities on this basis.

- ◆ Add dimensions of equipment cost and facility overhead into the new fixed/variable cost matrix.

- ◆ Build reports to give managers the added multilayer fixed/variable cost view of their operation(s), and educate managers as to the significance of this view.

Stage 1 is the primary topic of this discussion, but Stage 2 is in progress.

## STAGE 1 IMPLEMENTATION PROCESS

To implement Stage 1, we considered five hospital departments for a pilot: Pediatric Laboratory Medicine, Diagnostic Imaging, Health Records, Medical Engineering, and Information Services. All have very different functional operations. Combined, they include more than 600 employees and an operating budget of around C\$80 million.

After several meetings to gain buy-in from senior operational management, we used the following implementation plan, which can be broken down into six steps:

### 1. Identify activity and resource drivers.

We held detailed planning meetings with managers at all levels in the pilot departments. In several cases, we found out more about the operations of the departments through two or three planning meetings than we had in months or years of periodic financial variance discussions. It quickly became apparent that the existing cost center structure badly distorted the picture of cost vs. output through aggregation of unlike resources and activities. This made the assessment of performance something that managers felt they were innately aware of but couldn't see in the standard financial reports.

We identified key activity drivers, and, where an existing method wasn't in place, we also identified how to collect the activity information in the future. We felt that quantifiable drivers that weren't based on hours, such as number of x-rays performed, provided more familiar, though less detailed, information to managers than a typical GPK-based measure such as number of hours worked. Capacity analysis becomes more difficult, but management buy-in was a critical first step.

## **2. Create cost centers for identified activities and related resources with quantifiable activity drivers.**

The next key step was to crystallize activities to a single activity-driver level with new cost centers created on this basis. New cost centers had to meet certain criteria (see “How to Define a Cost Center”). The requirement for repetitive output led to issues because this wasn’t the pattern of some work areas. In particular, large parts of the Information Services department operated on a nonrepetitive, project-based basis. Although project-based work can be accommodated in a full GPK implementation, it was beyond the scope of what we were trying to achieve with Stage 1, and, consequently, we excluded Information Services from the initial pilot.

In the remaining four departments, we created a completely new cost center structure, closely matching the financial structure with the departmental operational structure. This significantly increased the number of cost centers. In total across the pilot departments, the number

of cost centers pre-implementation was 29, and the post-implementation total was 97.

We were unsure as to how managers would react to this explosion of cost centers, but their reaction was actually very positive. Most find it easier to manage their four or five new cost centers rather than their single old cost center because the new structure better reflects the way that managers organize and manage the operations in their area.

## **3. Plan activity and resource consumption for each cost center.**

Once we defined the cost centers, significant effort went into identifying resources consumed within the new structure prior to the start of the new fiscal year. Identification of activity measures and detailed cost assignments, together with a considerable amount of data cleanup, was a priority both before and after the setup.

## **4. Develop driver cost rates, and assess rates vs. prior periods.**

It was critical to identify the direct causal relationships between resources consumed and work performed. We used a review of available prior data plus reality-check reviews with operational directors and managers to set our rates.

## **5. Develop overall cost plan (relating activity and service levels to cost).**

A year into implementation, departments have plans based on detailed cost-per-activity data. Feedback from operational managers was also valuable in refining financial and activity measurement data and led to a few minor changes to the initial setup.

## **6. Compare monthly actual driver utilization, costs, rates, operating, and financial variances.**

Managers review and comment on their new monthly reports, both inside and outside their departments. Supervisory staff use the report for their individual area; managers use the group of reports for their areas, discussing and reviewing them with supervisors; departmental directors discuss detailed highlights with their operational managers. Universally, all levels of management find the new system helpful, relevant, and a huge step forward as compared to the prior financial reporting-based system. Comments such as “I now have a much better understanding of the activity and related costs in my area” are common.

## How to Define a Cost Center

Consider the following information from “Bring on German Cost Accounting” by Paul A. Sharman in the December 2003 issue of *Strategic Finance*. For a cost center to be defined, it must meet these requirements:

1. Costs must be separable—they must be specific to the output being produced in the cost center.
2. The output produced must be repetitive.
3. The output must be the responsibility of an individual manager. A cost center may have only one manager, but one manager may manage more than one cost center.
4. Cost center size should be manageable.
5. Costs/technology/resource type/work performed must be similar.
6. Cost assignment drivers must be quantifiable and able to be planned.
7. The center must be either primary or support. Support for a primary cost center is one that performs work directly contributing to the manufacture of the product or performance of the service for a customer (e.g., packing items for shipment).

**Table 1: Restructuring of Cost Centers in the Health Records Department**

OLD COST CENTERS	NEW COST CENTERS	ACTIVITY MEASURE
Admitting	Emergency registration	# emergency registrations
	Clinic registration	# clinic registrations
	Admitting support	No measure
Admin & clerical	Chart retrieval – stat	# of charts pulled – stat
	Chart retrieval – clinic	# of charts pulled for clinic
	Chart pick-up/delivery	# charts picked up/delivered
	Loose report management	# inches of loose reports filed
	kidCHART (chart scanning)	# pages scanned
	Inpatient discharges	# inpatient discharges
	Admin & clerical support	No measure
Management admin	Ambulatory coding	# charts abstracted – ambulatory
	Inpatient coding	# charts abstracted – inpatient
	Release of information	# release of information requests completed
	Chart deficiency management	# charts processed
	Research support	# research charts signed out
	Management and admin support	No measure
	IS support	No measure
Transcription	Transcription	# lines dictation transcribed

### HEALTH RECORDS DEPARTMENT THEN AND NOW

Let’s now look at how we changed the financial management of the Health Records department, which maintains more than 700,000 hardcopy patient charts and processes 3.1 million documents annually. With a budget of C\$5 million and about 100 staff, the department performs multiple functions, including chart distribution, paper filing, coding and abstraction of patient diagnosis and treatment records, document scanning, report transcription, patient registration, and so on.

Despite these multiple activities and processes, only four cost centers were in use to financially manage the department prior to the Stage 1 implementation. This management structure provided no detail on the relationship between expenses and activities or outputs within the department.

We restructured the department financially as Table 1 shows, with the four old cost centers becoming 18 new ones. Only one of the old cost centers remained intact. We assigned staff members to the new cost centers based on their identified activities, assigned supply budgets to

the activities consuming those supplies, and made a preliminary assessment of equipment and overhead as to where they fit in with the new departmental financial structure.

We undertook this process with the direct involvement and assistance of operational managers. They were amazed at what we were doing. Not only did the finance department actually want to restructure the central financial records in a way that operational managers understood their areas to work, but at the same time these same finance people wanted to introduce activity measures that were granular enough to directly help operational managers assess the degree to which they were managing successfully. The financials would be directly relevant and useful in their operational lives, and planning and financial management discussions would no longer solely emphasize criticisms and explanations for this aggregated financial variance or that aggregated financial variance. What a concept!

For example, the old admitting cost center held costs related to the emergency registration process, the clinic

registration process, and some sundry processes that had little to do with patient registration. We split registration and admitting into three cost centers, with activity measures in the form of number of registrations processed added to the new emergency registration and clinic registration cost centers. By assigning discrete resources (primarily registration clerk time) to only the work that consumes the resources (performing registrations), we developed an accurate overview of cost, performance, and capacity.


The new financial reports immediately showed that clinic registrations are much cheaper than emergency registrations. This differential made sense to the operational managers, as much less work is involved in clinic registrations, and these registrations don't incur higher rates of pay through off-hours shift premiums and/or overtime. The amount of the direct staff costs per registration (more than had been previously assumed) also highlighted the fact that registrations aren't a factory-like process: Most patients and parents required additional work, such as walking them to exam rooms, discussion and explanation of consent forms, and so on.

Needless to say, this type of activity- and resource-specific cost information is very helpful for managers, especially in comparison to the aggregated financial information shown on the old standard reports. The department now manages to cost per activity and related resource consumption measures across all areas. Managers review their actual unit costs compared with budgeted unit costs and can easily identify and thereby address issues in a timely fashion. Managers also use cost-per-activity measures as the basis for departmental budgeting, which has become very streamlined. For example, in costing budgetary assumptions on hospital global activity, we can now show from our new standard reports the variable cost involved in, for example, registering an additional 1,000 patients of any type.

## ADVANTAGES

After completing the Stage 1 implementation, we found the advantages of our approach ranged from simplicity to higher quality of information to its scalability for future stages. Here's a closer look at the benefits.

**Simplicity and operational management buy-in.** The whole essence of the system is to structure and present information in a way that managers can understand, whether they're finance people or not. This engendered a big buy-in from operational managers, with a much greater feeling that they can now own their numbers.



Operational managers, finance staff, and senior managers now all talk the same language, and better data is routinely available to support their discussions and decisions.

The value of breaking down the traditional corporate finance vs. operational management barriers is difficult to overestimate.

**Improved understanding of complex operational areas.**

A near-universal comment was that operational managers felt that there was a better understanding of financial issues and operations of their areas. Not only did senior managers and finance staff understand their areas better, but the managers themselves gained a much more informed understanding of cost drivers within their areas and the cause and effect of activity changes on financial results.

**Higher quality of operational/financial information for decision making.** The information quality for day-to-day financial, operational, and even strategic decision making has improved drastically. Operational managers, finance staff, and senior managers now all talk the same language, and better data is routinely available to support their discussions and decisions.

**Integrated ERP system at Sick Kids.** An integrated

ERP system at Sick Kids made the alignment of product lines, staffing costs, and cost centers easier than it would have been in a nonintegrated system.

**No duplication of systems and effort because GL is the central repository.** Once the initial setup period was over, the maintenance of the new structure and data within the GL became routine and straightforward in direct contrast to a typical standalone ABC implementation, where constant updating of the independent ABC system is required to maintain useful data.

**Good grounding for future expansion of the methodology.** The approach is scalable in that benefits have been forthcoming prior to completing the entire project. Just setting up the new cost center structure, realigning supply and salary costs, identifying appropriate activity indicators, and building the first level of new reporting garnered a tremendously positive organizational response. This builds momentum to future stages, where the introduction of multilayer reporting, inclusion of capital equipment costs, appropriate treatment of capacity, plus finer classifications and allocations of overhead are achievable within an already positive context.

## ISSUES

As with every new project, there are always challenges. Here's a look at these issues.

**Implementation setup work.** In setting up the new structure, we reassigned more than 600 employees to new cost centers and redefined more than 7,000 supply items to ensure that they could be directly associated with specific resource-consuming activities. This *wasn't* a trivial task. The setup work placed burdens on corporate finance, payroll, and purchasing, with the work providing no direct benefit to them. Foreseeing this, we put a lot of upfront effort into staff education regarding the project's organizational benefits.

**Data integrity—the need for cleanup prior to project.** The setup process highlighted areas where base data, such as supply item descriptions and pricing, wasn't sufficiently clean prior to cost center reassignment. Although this increased setup time, it produced cleaner data than had been available previously.

**Need for ongoing data maintenance.** Ensuring that the classification of purchases complies with the new and more complicated structure still provides some difficulties. Ongoing monitoring has been necessary, and the number of issues has been reduced over time.

**Some lack of trust as to how data would be used by others.** A few managers expressed concern as to the use

of the data, i.e., that senior management would now be able to assess the performance of their departments or areas through standard reports without direct interaction and discussion with the area managers themselves.

**Not a perfect fit for all areas.** Areas such as Information Services, where activities and processes are largely project based and not routine, weren't a good fit with our chosen initial approach. We aim to include them in future stages.

## THE FUTURE

The immediate future is Stage 2, where we are building on the highly successful Stage 1 implementation to develop splits of fixed/variable costs within the new structure. We'll add equipment and other overhead costs into the equation, and segment reports with variable/fixed cost components and a layered presentation will bring what we see as groundbreaking clarity to organizational cost information. These are natural add-ons to the new structure and will address the more advanced questions regarding cost that financial and nonfinancial staff now ask.

The longer-term model will be based on Resource Consumption Accounting (RCA), with the explicit understanding of resource capacity in relation to activity as the basis for development after Stage 2.

## EMPOWERING EVERYONE

The new GPK-inspired cost center structure, with its emphasis on ABC-related activities and drivers within the established GL structure, shows how things really work at the hospital. The vast majority of operational managers welcomed the implementation because they saw the new information as being far more relevant to their daily lives than the previous financial reporting-based information structures.

GPK, ABC, and RCA all encompass one fundamental aim: empower managers to financially understand and make informed decisions about their own areas. Operational managers typically aren't financial experts, but they're operational experts. Our aim must be to present financial information in such a way that organizational finances mesh seamlessly with operations to the empowerment of all. What better way to achieve this than to expressly measure and value the operations that managers are accountable for. ■

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