Staffing Analysis- New Methods Provide More "Relief"

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Introduction

Jail staff costs constitute more than two-thirds of annual jail operating costs. Managing this valuable, critical and costly resource poses challenges for jail managers and policymakers. But there have been some advances in jail staffing analysis that are seeing the old "shift relief factor" methodology, on which jail managers have relied, now giving way to a new, flexible tool.

In 1987, the National Institute of Corrections (NIC) offered a new resource, the *NIC Staffing Analysis Workbook for Jails, First Edition*. Written for NIC by Rod Miller and Dennis R. Liebert, the NIC *Workbook* described a new, systematic approach to staffing analysis and presented new methodologies to the field, which a number of jails subsequently embraced. NIC updated it in 2001; the NIC Academy used the second edition in developing its first jail e-learning course, now available on line and on CD-ROM.[1]

As jurisdictions apply the NIC process and methods, the refinements, improvements and innovations that they developed along the way are leading to some rather exciting developments in the field. This article describes the experience of Montgomery County, MD, as a team of jail staff and officials examined the linchpin of the staffing analysis process: the calculation of accurate "net annual work hours" (NAWH) for every custody-oriented classification of staff.

Staffing Analysis Process

The staffing analysis methodology described in NIC's *Workbook* involves 10 sequential steps:

The Staffing Analysis Process

- **Step 1. Profile the Jail-** describing the context in which staffing occurs
- **Step 2. Calculate Net Annual Work Hours**- understanding how many hours we really derive from each full time position, and getting the data and math right
- **Step 3. Develop a Facility Activity Schedule**- examining hour-to-hour levels of activity in the jail, and identifying opportunities for new efficiencies
- **Step 4. Develop the Staff Coverage Plan-** determining what type of staff are needed, where, and when, and with what exceptions
- **Step 5. Complete a Staff Summary**- a first look at the level of staffing
- **Step 6. Develop a Schedule**- finding efficient and effective ways to deploy staff to meet coverage needs

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[1] http://nicic.org/Services/eLearning.aspx

- **Step 7. Evaluate, Revise, and Improve the Plan-** the equalizer-- identifying deficiencies in the plan before it is implemented
- **Step 8. Calculate Operational Costs**- asking for the right amount of resources
- **Step 9. Prepare a Report**- documenting your findings
- **Step 10. Implement the Plan and Monitor the Results**- continuously fine tuning the plan as it is implemented

Although the *Second Edition* expanded the seven-step process introduced in the *First Edition*, it also trimmed the content of the *Workbook* substantially and eliminated several forms and checklists, among them: Form 1A: Profile the Jail; Form 2A: Intermittent Activities/Operation Chart, now simplified as Form B, Facility Activity Schedule; Form 3A: Staff Assignment and Coverage, simplified and combined Form 3D, Staff Assignment Summary; Form 3B: Graph of Staff Assignment; Form 4A: Weekly Scheduling Summary; Form 4B: 2-Month Master Schedule; Form 5A: Master Evaluation Checklist; Form 5B: ACA Standards Checklist; Form 5C: Time/Task Analysis; and Form 7A: Monitoring Checklist.

Many practitioners still use some of these earlier forms and checklists, which are available from NIC through its Information Center (http://www.nicic.org/pubs/pre/006510.pdf).

Continually Improving the Process and Methodology

As more practitioners apply the staffing analysis process, they are developing important refinements and improvements.

For example, one county wanted to find a balance between the complex Intermittent Activities chart in the *First Edition*, and the somewhat simplistic Facility Activity Schedule in the *Second Edition*. They created an Excel spreadsheet that displayed the various intermittent activities that occur in the jail by half-hour increments. They assigned a value, or "weight," to each activity that reflected the extent to which jail operations were impacted. A higher value indicated a greater impact. Using a scale of 1 to 5, they might assign meal service a "4," shift change a "5," and a more localized activity such as an attorney visit a "1."

After the spreadsheet was completed, they totaled the values in each column (a column represented a half-hour block of time), similar to the *First Edition* chart. These totals were converted into a chart that graphically demonstrated the ups and downs of hourly and daily jail operations. This allowed them to focus on the high points, when staff was likely to be over-taxed, and the low points, when staff might not be fully occupied. By comparing activity levels in the jail to staffing levels, it is possible to quickly identify inconsistencies. That kind of analysis can be the impetus for any needed changes in procedures and scheduling in the jail, thereby improving efficiency in jail operations.

A sample of this enhanced activities form is available online, along with samples of a weighted form, at: www.correction.org   Other forms and tools related to the staffing analysis process are also available at that site.

From "Relief Factor" to Net Annual Work Hours

In 1987, the NIC *Workbook* introduced a new staffing analysis term and concept, the "Net Annual Work Hour" (NAWH). Many practitioners have successfully applied the NAWH methodology to their own jail operations, finding it to be an important new staffing and budgeting tool. The NAWH method eliminates the need calculate various "relief factors."

A "relief factor" attempts to answer the question: "How many full-time staff must I have in my budget to provide continuous coverage for a relieved post?" Relief factors are usually calculated for posts that are operated 24 hours daily, every day of the year. But calculating a relief factor becomes very difficult, and less accurate, when a variety of posts are considered. Some posts operate for only part of the 24-hour day, and some posts are not operated every day of the week. Developing relief factors for the combinations of posts found in a creative and efficient modern jail is difficult and daunting. One county recently concluded it only required 4.1 full-time positions to staff 2 12-hour shifts, 365 days per year. They made math errors when they tried to adapt their old shift relief factor (for 8-hour shifts) to their new 12-hour shifts. This is a common error made as managers try to apply relief factor methodology to alternative shift patterns.

The NAWH method introduced in the NIC Workbook accomplishes the same goals, more accurately, and with much more flexibility. By focusing on the *hour* as the unit to be measured, rather than a shift, the process has been improved.

Although most steps in the staffing analysis process are more art than science, the NAWH calculations demand exacting attention to detail.

By calculating the "Net Annual Work Hours" (NAWH) for each classification of staff and at each facility, the budget requirements for any number of operational practices may be easily and accurately estimated. A NAWH calculation answers the question "How many hours is a typical officer (or other staff classification) available to be scheduled for duty handling mandatory post coverage in the jail annually?" The process for calculating NAWH is similar to the one that has traditionally been used for relief factors, but the product is much more useful and versatile.

Figure 1 shows how easy it is to use the NAWH method to identify budget requirements for a diverse set of posts and positions.

Figure 1 demonstrates many advantages of the Net Annual Work Hour methodology. First, it highlights the fact that different classifications of staff have a distinct NAWH-- the COI and Sergeants in Lines 1 and 2 are needed to cover the same number of total annual hours, but because the sergeants have more time off for vacations and training, they have a lower NAWH. Therefore, more FTE's are required in the budget to cover the same number of hours in a year.

Using a NAWH makes it easy to calculate the budget implications of an infinite number of post assignment patterns and schedules. The hours per day and days per week can be varied, but the NAWH is a common denominator to consistently determine budget needs. Imagine

trying to calculate separate "relief factors" for the situations posted in Figure 1. Not only would it be very difficult, it would likely be less accurate.

Figure 1:   Samples of NAWH Use for Variety of Posts and Positions

Post or Relieved Position	A Number of Hours Post is Operated Each Day	B Number of Days Post is Operated Each Week	C Number of Hours/Year Needed to Operate Post (A times B times 52.14 weeks in a year)	D Net Annual Work Hours for Classif. of Staff Used to Operate the Post	E Number of Full-Time Equivalent Staff Needed in Budget to Provide Needed Coverage (C divided by D)	F Classif-ication of Staff Assigned to Post
1. Control Center	24	7	8,670	1,580	5.44	COI
2. Shift Supervisor	24	7	8,670	1,522	5.70	Sgt
3. Front Lobby Rec. Desk	16	7	5,840	1,580	3.70	COI
4. Intake Power Shift	10	2	1,043	1,580	0.67	COI
5. Escort and Relief	12	7	4,380	1,580	2.77	COI
6. Exercise / Recreation Officer	10	4	2,086	1,556	1.34	COII

The NAWH estimate is a crucial budgeting tool that helps to distinguish between *gross* staff hours budgeted and the *net* hours that are actually available to be scheduled for daily DOCR operations.

SUMMARY

Calculating accurate Net Annual Work Hours pays off in many ways. Doing it right demands a lot of time and an exacting attention to detail, but the results are worth it and will be realized year after year. In the next issue of *Sheriff* magazine we will roll up our sleeves and provide detailed guidance, using a Maryland county as a case study.

Staffing analysis methods are evolving. There is room for improvement, enhancement, and new creative approaches. Practitioners are encouraged to report their experiences and their innovations so that they may be shared with their colleagues.

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From Budget to Actual Operations
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