Corrections Health

Improve management practices for
cost-effective care

September 2005

Suzanne Flynn
Multnomah County Auditor

LaVonne Griffin-Valade
Multnomah County Deputy Auditor

Audit Staff

Rie Anderson

Fran Davison

Janis Koch

SUZANNE FLYNN, Auditor
Multnomah County
501 SE Hawthorne, Room 601
Portland, Oregon 97214

Telephone (503) 988-3320
Fax (503) 988-3019

www.co.multnomah.or.us/auditor

Date: September 7, 2005

To: Diane Linn, Multnomah County Chair
Maria Rojo de Steffey, Commissioner, District 1
Serena Cruz, Commissioner, District 2
Lisa Naito, Commissioner, District 3
Lonnie Roberts, Commissioner, District 4

From: LaVonne Griffin-Valade, Multnomah County Deputy Auditor

Subject: Corrections Health Audit

The attached report covers our audit of Corrections Health, the unit within the Health Department responsible for providing physical and mental health care to inmates in Multnomah County's correctional facilities. The audit focused on the delivery of adult health services in the County's two largest jails and was included in our FY04-05 audit schedule.

We found that Corrections Health is committed to providing good care, but management of staff resources needs to improve. To create greater productivity and reduce costs, Corrections Health should use more efficient, consistent, and creative methods to manage staff scheduling, worker absences, and overtime use. Shift schedules should be adjusted to correspond with the availability of inmates needing services, staffing for scheduled absences should be planned, and overtime and sick leave use should be monitored.

We also found problems with the management of mental health care services at the Multnomah County Detention Center and Inverness Jail. For example, the role of and expectations for psychiatric nurses are not clear, and the outcome of their work is not systematically collected or reviewed by a supervisor. These management weaknesses, combined with the limited on-site supervision of all mental health providers, prevent Corrections Health from maintaining a high level of accountability for the work of mental health staff.

Further, information regarding the level or number of co-existing illnesses, including any mental health concerns, has not been analyzed to determine the impact on workload. Referred to as the inmate acuity level, we heard from many in Corrections Health that the acuity level had increased in recent years. We tested some available indicators and did not find evidence to support statements regarding increased acuity.

Finally, the system used by Corrections Health to process health information among corrections facilities is inefficient and labor intensive. Staff spend valuable time manually moving and tracking medical charts. In addition, when inmates are booked and they have previously been incarcerated at a County facility, their medical records must be brought from a central storage area and may not be immediately available to Corrections Health staff.

We recommend a number of changes, including the development of a system to control overtime use and expenditures, to monitor sick leave use, and to implement alternative scheduling options. We also recommend that Corrections Health set and measure expectations for medical staff teams, improve management accountability, and clarify lines of responsibility. Further, we recommend that a staffing study be conducted and that Corrections Health consider implementing an automated scheduling system. Finally, we recommend that an electronic records process be implemented to more efficiently process medical charts, to increase access to medical information, and to reduce the likelihood of human error.

We will conduct a formal follow-up of this audit beginning within a year to 18 months to determine the progress made in implementing recommendations.

We would like to acknowledge and thank the management and staff in Corrections Health and the Health Department for the cooperation and assistance extended to us during the audit.

Table of Contents

Summary

The Corrections Health Division provides health care to adult and juvenile inmates at Multnomah County's five jail facilities. The audit focused on the delivery of adult health services in the largest two jails, the Multnomah County Detention Center (MCDC) and Inverness Jail (MCIJ). The purpose of the audit was to assess the management of the staffing and scheduling of doctors, nurses, and other health care providers and to determine whether there were advantages to adopting an electronic medical records system.

Corrections Health provides care for a population that can be difficult. Many inmates have not had regular medical or dental care, or they may have a long history of drug and alcohol abuse or mental illness. We observed staff in Corrections Health on several occasions and found them to be committed to bringing good care to inmates within the jail environment. However, improving the management of Corrections Health would allow staff to carry out their work more efficiently and effectively.

We found that weaknesses in the management of staff resources contributed to less than optimal productivity and higher costs. In particular, management of scheduling, worker absences, and overtime use need to be strengthened. Further, mental health services within the jails lacked adequate supervision and received little assessment of the impact of services, despite the County's strong support for that function.

Corrections Health overtime expenditures more than doubled between Fiscal Years (FY)1998 and 2004. Overtime expenses as a percentage of total personnel costs have gone up, suggesting an increased reliance on overtime. We also found that oversight of the overtime of nurses was limited and that management does not appear to follow overtime assignment procedures or analyze data. In addition, sick leave use was not monitored and coverage for scheduled absences was not adequately planned to minimize costs. Both of these management weaknesses contributed to overtime use.

The mental health care component of Corrections Health has limited on-site supervision, the role of psychiatric nurses is unclear, and there are no established criteria for assessing mental health medical staff performance. We found that, on average, psychiatric staff were seeing a small number of inmates on a daily basis. Further, Corrections Health reported that the acuity of inmates receiving mental health care has increased. However, we did not find evidence of increased acuity, and Corrections Health has not collected and analyzed data to determine whether or not the acuity level of patients in the jails has increased.

Many of the administrative processes used by Corrections Health to deliver services were not efficient. We found that staff scheduling did not necessarily correspond with the times in which inmates were available to receive care and that nurse staffing was not necessarily based on workload. Also, staff skills were not efficiently matched to the tasks being performed. Although records management personnel were productive, the manual processes that were used to collect and distribute health care records throughout the jail system were labor intensive and inefficient.

We recommend that Corrections Health develop a system to control overtime use and expenditures. The system should include better management and monitoring of overtime and sick leave use and planning of scheduled absences, as well as management of the pool of on-call nurses. We also recommend that Corrections Health should determine staffing needs based on workload requirements, absences, and inmate access. Once staffing needs are determined, Corrections Health should consider which potential staffing changes and alternatives could bring cost-effective improvements. Finally, to improve the processing and tracking of medical charts, we recommend that Corrections Health develop a plan to implement electronic medical records.

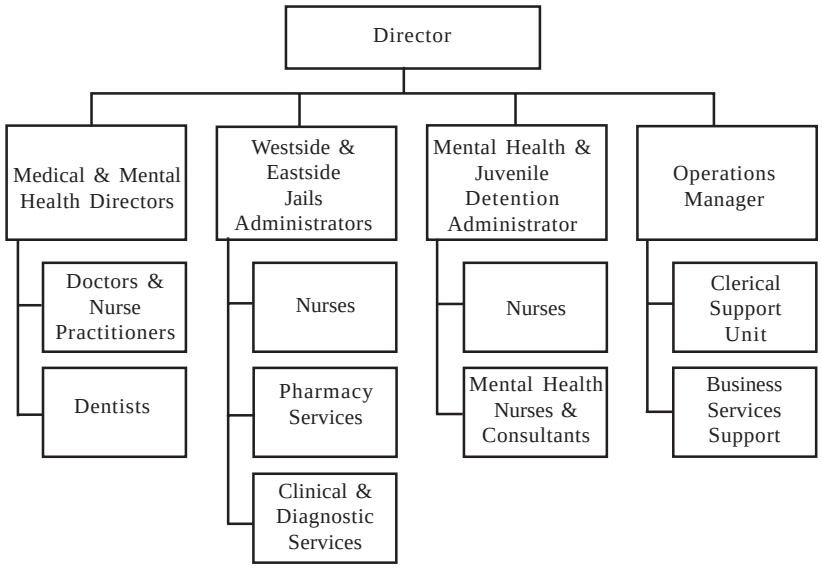
Background

Inmate health care at Multnomah County jails

Multnomah County Corrections Health (Corrections Health) provides health care services for adult and juvenile inmates at five jail facilities: Multnomah County Detention Center (MCDC), Inverness Jail (MCIJ), Juvenile Detention Center, Multnomah County Corrections Facility (MCCF), and a facility that houses the Restitution Center and the River Rock Alcohol and Drug Treatment Program. Corrections Health is part of the Health Department and operates within jail facilities controlled by the Multnomah County Sheriff's Office (Sheriff's Office) and the Department of Community Justice. Recent reorganization brought Corrections Health under Integrated Clinical Services within the Health Department.

Corrections Health organizational chart (as of October 2004)

Exhibit 1



Inmate health care service delivery

Corrections Health offers nursing coverage 24 hours a day, 365 days a year at the County's two large jails: MCDC and MCIJ. Nursing coverage at the other correctional facilities is less frequent and at different levels. Major in-house services include initial health screening during inmate booking, provider-staffed clinics, infirmary care, emergency dental services, prenatal care, physical and mental health evaluations and counseling, X-rays, and medications. Cases outside of Corrections Health's resources are referred to local hospitals and clinics and require transport by Sheriff's Office corrections officers to provide security.

Corrections Health follows the standards set by the National Commission on Corrections Health Care (NCCHC) and has been accredited by that organization since 1987.

Requirements of inmate health care

Inmate health care is mandated by Oregon state law, the U.S. Constitution, and case law. The Constitutional minimal requirement is to provide access to medical care. However, the most widely accepted policy is to provide a higher level of care to reduce the possibility of inmate lawsuits. Likewise, Corrections Health has chosen to provide a level of care that they believe minimizes financial liability.

Client population

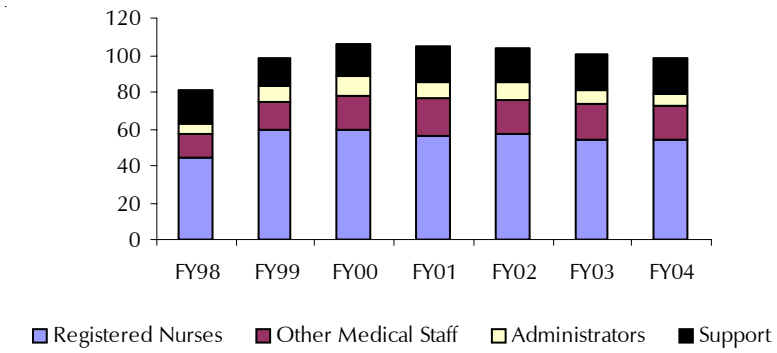
Corrections Health medical staff provide services to a population that can be difficult. Many inmates have not had regular medical or dental care outside of the criminal justice system. They may have a long history of drug and alcohol abuse and mental illness and/or suicidal tendencies. Our observation was that, regardless of the inmates' crimes or health condition, Corrections Health staff was committed to providing the best care possible within the given environment. However, the average daily inmate population and number of bookings have gone down in recent years.

Staffing

Corrections Health was staffed at 98 regular full-time equivalent (FTE) employees in Fiscal Year 2004 (FY04). In addition to regular staff, Corrections Health used some on-call doctors, technicians, and nurses. Registered nurses made up approximately one half of the total number of staff in FY04.

Exhibit 2

Corrections Health full-time equivalent (FTE) employees



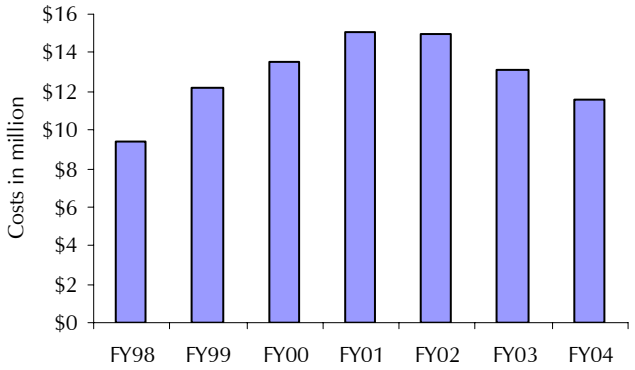
Source: Budget Details

Spending and revenue sources

Corrections Health spent $11.6 million in FY04. Its largest expenditures were for personnel, representing 77% of total spending in FY04. Corrections Health has depended primarily on County General Fund dollars since the end of the public safety levy in FY02. As seen in Exhibit 3, expenditures decreased in recent years due to budget cuts.

Corrections Health expenditures (adjusted for inflation)

Exhibit 3



Source: Auditor's Office analysis

Traditionally, Corrections Health has served a population with limited resources. In addition, unlike the patients seen by other health care organizations, incarcerated people are denied coverage by most private health insurance and the Oregon Health Plan/Medicaid (except during the first 14 days of incarceration). Further, Corrections Health is required to pay for any inmate's hospitalization or outside medical treatment during the time of incarceration. The current inmate co-payment for a provider visit and/or prescription is $10, and inmates are billed for this amount. This co-payment represents a fraction of overall Corrections Health revenue, about 2% in FY04. Inmates are also billed for outside medical visits.

Scope and Methodology

The purpose of this audit was to determine whether:

1) staffing and scheduling of providers and nurses were efficiently and effectively managed;
2) electronic medical records could increase efficiency and effectiveness; and
3) the balance between level of care and level of financial risk was adequate. We were unable to complete this portion of the audit because of problems with reliability of the financial liability data we collected from comparable jurisdictions.

This audit focused primarily on doctors, dentists, nurses, and other providers in the two largest facilities: MCDC and MCIJ. To limit the scope of the audit, all other facilities were excluded from detailed analysis, as were clerical and pharmacy staff. We did not examine quality of care because this is reviewed during their accreditation by the National Commission on Correctional Health Care (NCCHC).

We reviewed budgeted and actual expenditures, staffing levels, NCCHC standards, the 2001 and 2004 NCCHC Audit Reports, relevant laws and regulations, policies and procedures, job descriptions, the FY05-FY09 Health Department Strategic Plan, other relevant audits and literature, union contracts, Quality Steering Committee and other management reports, pharmacy and prescription processes, sample schedules, mandatory overtime logs, inmate statistics, and workload statistics. All expenditure analyses and charts were adjusted for Portland-Salem medical care inflation based on Fiscal Year (FY) 2004 dollars.

We interviewed employees from Corrections Health and other Health Department areas, the County Attorney's office, NCCHC, and the Sheriff's Office, and we attended various staff meetings.

We also:

- observed operations at MCDC and MCIJ for day, evening, and night shifts in December 2004;
- accompanied day-shift nurses on medication and other rounds at both facilities to measure nurse workload during a four-day period in May 2005;
- reviewed a sample of overtime slips for overtime authorization;
- analyzed overtime, sick leave use, inmate acuity, and workload data;
- compared inmate schedules and clinic and medication round schedules; and
- surveyed other jurisdictions to compare the level of inmate medical care provided at Multnomah County.

This audit was included in our FY05 audit schedule and conducted in accordance with generally accepted government auditing standards.

Audit Results

Management of staff resources needs improvement

The provision of health services to inmates relies directly on the staff who provide those services. Because of the central role staff play, and because staffing is the most expensive component of the Corrections Health budget, effective management of staff is critical to providing quality care and containing overall costs. We found a number of areas where management of staff resources was weak, leading to less than optimal productivity and higher costs.

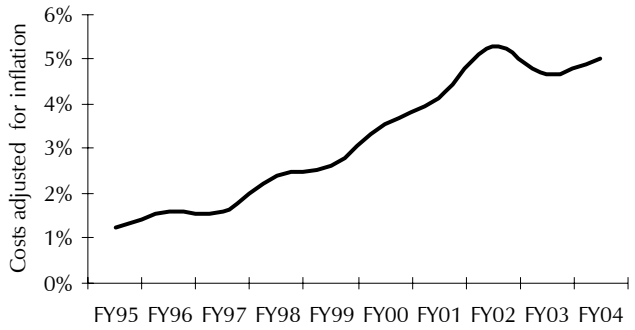
Specifically, management of various aspects of scheduling and leave could be improved. We found that oversight of overtime was given low priority, with overtime procedures not uniformly followed and no guidelines to assess the appropriate use of overtime. Sick leave use was not monitored despite its effect on absentee coverage. Corrections Health did not budget regular nurses for absences, and the number of active on-call nurses was insufficient to maintain coverage, requiring the use of overtime. Further, mental health services lacked adequate supervision and had little assessment of their effectiveness despite Corrections Health's strong support for the function.

Overtime not controlled

We found that use of overtime was not monitored, and expenditures increased. Corrections Health overtime expenditures more than doubled between FY98 and FY04. Overtime declined in FY03 and FY04, possibly due to budget pressure and a change of management. However, overtime costs as a percentage of the total personnel costs have gone up in recent years, suggesting an increased reliance on overtime.

Corrections Health overtime costs as a percent of personnel costs (adjusted for inflation)

Exhibit 4

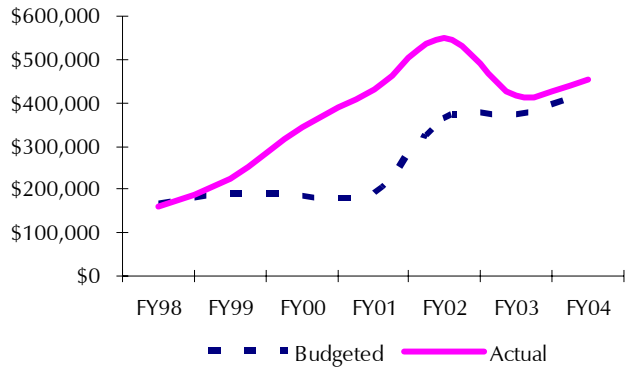


Source: Budget details and Health Department

Overtime expenditures have exceeded budgeted overtime every year for the last six years as seen in Exhibit 5. In FY04, Corrections Health spent $453,800 in overtime pay; 88% was paid to nurses. When full-time, part-time, or on-call employees work more than eight hours a day or 80 hours in a two-week period, overtime costs are incurred. The overtime pay schedule is 1.5 times base salary unless the staff member is required to work overtime without choice. The mandatory overtime pay schedule is 1.5 times base salary for the first four hours of overtime and double base salary thereafter. In FY04, about 5% of overtime hours were mandatory overtime.

Corrections Health overtime budget and actual expenditures (adjusted for inflation)

Exhibit 5



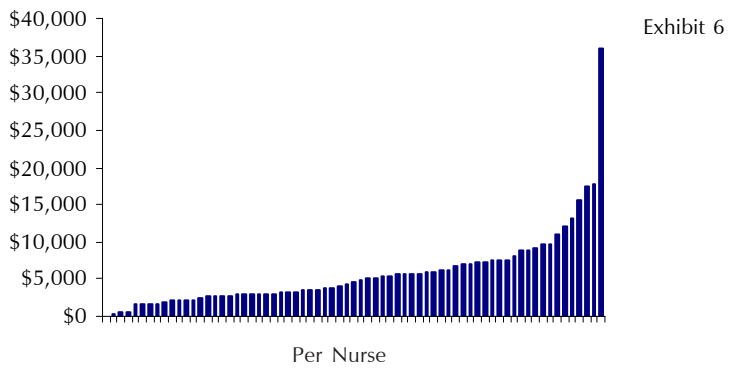
Even with on-call staff coverage, overtime use may not be avoidable in many situations because of a workload fluctuation, the absences of other employees, a shortage of trained nurses, and staff vacancies. However, use of overtime should be minimized to balance workload and avoid nurse fatigue.

Although management stated that excessive absences by some employees are discussed at management meetings, oversight of overtime use appeared to be weak. First, Corrections Health had difficulty obtaining basic overtime information on request, which suggests that such data are rarely or never used to analyze overtime. Second, we found that a small percentage of nurses regularly worked a higher number of overtime hours than most others.

As shown in Exhibit 6, there was a disparity in the amount of overtime nurses used. Overtime hours worked per nurse ranged from 1 to 814 hours in FY04, with the average annual overtime per nurse at 134 hours. In particular, the top overtime pay earner's salary was nearly doubled with overtime and the overtime pay was twice as much as the nurse with the next highest overtime.

Correction Health nurse annual overtime pay per nurse (FY04)

Exhibit 6



Corrections Health nurses who work overtime have already worked a regular eight-hour shift and can be scheduled for either four hours of split-shift overtime totaling 12 hours or a 16-hour double shift. While split shift overtime, in which two employees share four-hours each of overtime work, was sometimes used, double shifts were most common. Recent changes to the nurses union contract include a provision that requires overtime pay for work done with less than 10 hours of rest between work shifts.

Research shows that more than 12 hours of continuous work by nurses increases the risk of medical errors. One study found that the risk increased when nurses worked overtime regardless of the number of continuous hours worked. Given the number and pattern of overtime hours used by Corrections Health nurses, the quality of care may be suffering.

Overtime procedures not followed

Corrections Health's procedures require overtime authorization by managers and provide guidance for mandatory overtime assignment. We reviewed a sample of overtime requests made by four nurses who worked the highest number of overtime hours and represented 22% of all overtime in FY04. None of the overtime requests reviewed had the required management signature, including requests for work performed during lunch hours.

We were told that facility administrators were often not available to authorize overtime; however, the policy did not address such situations. Most overtime requests reviewed contained the signature of a manager who did not supervise these nurses and would not have known whether overtime work was required. These were signed after the date of the request and at the time of payroll approval, allowing overtime pay to be awarded without proper authorization. In addition, overtime pay was awarded even when overtime requests were not submitted. Nurses were automatically paid if time records showed more than 8 hours a day (or 80 hours in two-week payroll period). Management acknowledged that not all overtime requests were being submitted to them for approval.

According to Corrections Health policy and procedures, mandatory overtime is supposed to be assigned on a revolving basis to a person not recently assigned mandatory overtime. However, management allowed

nurses to "volunteer" for mandatory overtime. We found that nurses volunteered for nearly half of mandatory overtime.

Surveys of corrections health operations in other jurisdictions revealed that mandatory overtime is rarely used. One jurisdiction using on-call nurses told us that they cover absences with their on-call pool. It is possible that Corrections Health may be able to operate effectively without mandatory overtime.

Appropriate overtime use unclear

There was a lack of guidance on why and when overtime should be used. We found that some staff worked overtime to complete work while other staff appeared underutilized. Because the need for overtime was not well defined and no performance measures or target existed, it was difficult to assess the validity and necessity of overtime. Urgency, overall staff workload, difficulty of passing tasks to the next shifts, individual performance, and accountability are examples of factors that should be considered to determine appropriate overtime use.

Clear overtime guidelines are important because small amounts of daily overtime add up to significant expenditures. To illustrate the expense of unjustified overtime, we determined that it costs about $6,000 a year if one full-time nurse charges 30 minutes of overtime daily.

We found that overtime was used for staff coming in early, working through lunch, and staying late to complete work. While such work may have been legitimate, it is important for staff to document why overtime is needed, given the cost and increased risk of medical errors associated with overtime. For example, we became aware that some health assistants are asked to come in early in the morning and work overtime to draw blood from several patients once a week. It was unclear why health assistants had to work overtime when night shift nurses were available.

Sick leave use not monitored

Monitoring of sick leave needs improvement at Corrections Health to control costs and improve staff morale. Nurse absences that occur on short notice make it difficult to ensure continuous nursing coverage, thus resulting in greater use of overtime and increased demands on staff who are at work. While reports showing sick leave by employee were available to managers, it was not clear that those reports were being reviewed by management. We were told by management that addressing absenteeism was difficult due to union contract limitations.

We found that weak sick leave oversight had a negative impact on employee morale. According to a survey on sick leave, organizations with lower morale tended to have higher sick leave use. We were told by several Corrections Health employees that abuse of sick leave by some employees occurred and resulted in a greater need for overtime. In addition to improving morale and controlling overtime, better oversight of sick leave could result in overall savings. For example, if improved management of sick leave resulted in a reduction of even one sick day per nurse per year, it could potentially save from $15,000 to $26,000 annually.

According to research, measures can be taken to effectively manage employee absenteeism. These include having a clear attendance and leave policy that defines expectations, standards, and noncompliance consequences. These policies should be communicated verbally and in writing. It is critical that policies and procedures be consistently enforced and monitored. Incentive and wellness programs should also be considered.

Coverage for scheduled absences not planned

We found that staff coverage for scheduled absences was not adequately planned to avoid costly overtime expenditures. In recent years, Corrections Health has not budgeted regular staff for absence coverage, relying instead on regular staff overtime and on-call staff. If either failed to provide coverage, nurses from a temporary staff agency were used as a last resort. Without regular staffing for absences and a sufficient number of active on-call nurses, Corrections Health was not able to avoid overtime.

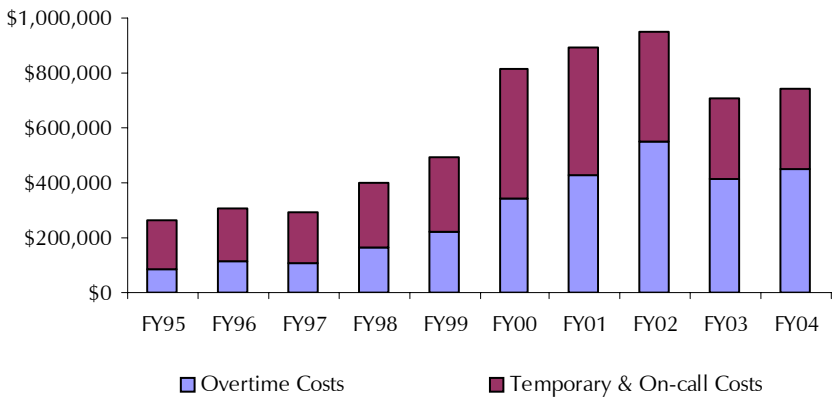
Corrections Health told us that the use of regular floater nurses to cover for absences did not work because they could not predict the number of daily absences. However, nurses sign up for most vacations annually, and the number of vacations taken by nurses at any one time is restricted. Given the advanced planning required, adequate information is available to estimate daily absences based on scheduled absences.

It is possible for Corrections Health to plan its use of regular staff for scheduled absences while monitoring sick leave and overtime use. To account for inevitable staff absences, a coverage factor can be calculated for posts that require continuous coverage. A coverage or relief factor is used to determine the number of FTE needed for a single post. This is often used in 24/7 operations and incorporates staff absences and weekend shifts. In FY04, the approximate coverage factor for nurses was 1.6 while the factor used in the budget was 1.4 and accounted for weekends only.

The maintenance of an appropriately sized on-call nurse pool is critical to the smooth, cost-effective operations of a medical facility. On-call nurses should be properly trained, able to provide coverage, and scheduled in a way that allows them to maintain their skills. On-call nurses are much more cost effective than regular staff overtime. The difference between overtime costs and on-call nurse costs was equal to about $230,000, based on FY04 overtime hours. Corrections Health has relied more on overtime than on on-call nurses and temporary coverage in recent years, as shown in Exhibit 7.

Overtime, temporary and on-call staff cost trend (adjusted for inflation)

Exhibit 7



Source: Budget details and Health Department
(includes costs for all types of staff)

Management of mental health care weak

We were told by several Corrections Health staff and administrators that there is a high need among inmates for mental health services, such as psychiatric care. We found the mental health component of Corrections Health to have limited on-site supervision. Further, there were no established criteria or measures for assessing mental health medical staff performance.

According to our research, the role of the psychiatric nurse is unclear industry-wide and has changed rapidly as large psychiatric facilities have closed. Similarly, the role of the psychiatric nurse in Corrections Health appears to lack clarity. The psychiatric nurse assists the psychiatric providers in delivering mental health services. While they are responsible for assessing and prioritizing client care, they cannot make diagnoses or prescribe medications. At the same time, the number of inmates with mental health care needs is too great to be met solely by psychiatric providers. In 2004, 3,413 (13.8%) of the 24,759 people booked into Multnomah County jails, were placed on a medical psychiatric alert due to a history of mental illness, suicidal thought, or disruptive or bizarre behaviors. Because of the high need and limited availability of psychiatric providers, it is critical that the role and expectations of the psychiatric nurse be clear and performance measured.

Each day, the psychiatric nurses receive a list of inmates to visit. These inmates have been referred by doctors, nurse practitioners, other nurses, and Sheriff's Office staff. The psychiatric nurses are responsible for meeting with as many inmates on the list as they can. The nurses also track high-risk inmates, such as youth in the adult facilities. However, they are limited to seeing inmates during the time frame set by the Sheriff's Office staff and may not see all the inmates on their list.

The outcomes of these visits are not collected or shared with a supervisor. Most situations are resolved with notes in the case file. However, these case notes are not regularly reviewed by a supervisor. In addition, we were told by other Corrections Health staff that although some of the psychiatric nurses are busy during their shifts, there are others that have been observed going on rounds late and who are not on task between rounds.

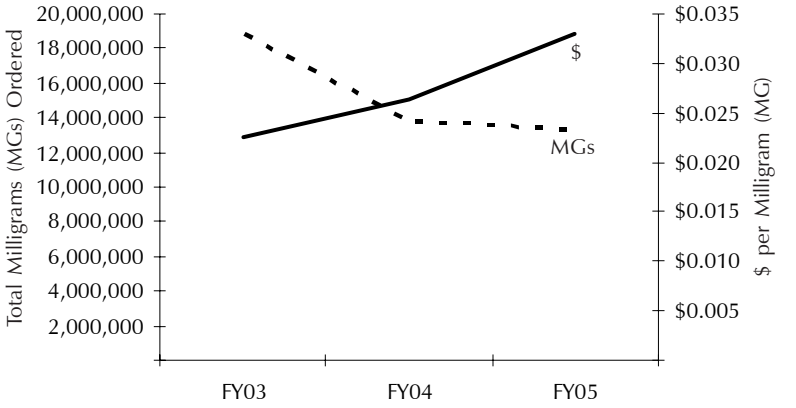
We found that psychiatric staff are, on average, seeing a small number of inmates on a daily basis. In 2004, the psychiatric providers -- those that can diagnose and prescribe medications -- were seeing fewer than 4 inmates per day on average. Psychiatric Nurses or Mental Health Consultants were each seeing fewer than 3 inmates per day on average.

A number of Corrections Health staff reported that the acuity (level or number of co-existing illnesses) among inmates needing mental health assistance is increasing and that the psychiatric staff is unable to see all those in need. However, we did not find evidence that the acuity has increased.

Measuring mental health acuity is difficult. We identified two indicators to assist in assessing the acuity trend in mental health: psychiatric alerts and the purchase of psychotropic medications. We did not find evidence for either indicator to support statements regarding increased acuity. From 2000 to 2004, the number of psychiatric alerts decreased by 4%. While the cost of psychotropic drugs increased considerably, we found the total milligrams ordered had decreased substantially. Because we were unable to determine the interchangeability of the various psychotropic drugs, this may not be an indicator of declining acuity. However, looking at pharmaceutical costs alone is not a sufficient measure of acuity.

Exhibit 8

Pharmacy orders for mental health medications



There appears to be a disconnect between concern for providing needed mental health care in Corrections Health and evaluating its effectiveness. A multi-disciplinary team (MDT) meets regularly and discusses individual cases. We attended meetings of the MDT and observed that the team worked collaboratively to meet the needs of the inmates. However, the lack of uniform performance and workload measures makes it difficult to determine effectiveness.

Supervision of psychiatric nurses needs to be strengthened. We spoke with a psychiatric provider to determine the level of supervision and found that there are only occasional chart reviews. We asked for clarification on who supervised the psychiatric nurses and were told that the health services administrator at the juvenile facility is responsible for their supervision. However, that person is rarely on site at the adult facilities and has several other responsibilities within Corrections Health.

Efficiencies in delivery of care possible

Corrections Health's processes used to deliver health care services were not optimally efficient in terms of both staff allocation and medical record movement. We found that staffing was not based on inmate accessibility or workload, staff skills were not efficiently matched to necessary tasks, and paper medical records required labor-intensive transfers and tracking. Often, important management decisions were made based on anecdotal information.

Staff configuration not always based on inmate access or workload

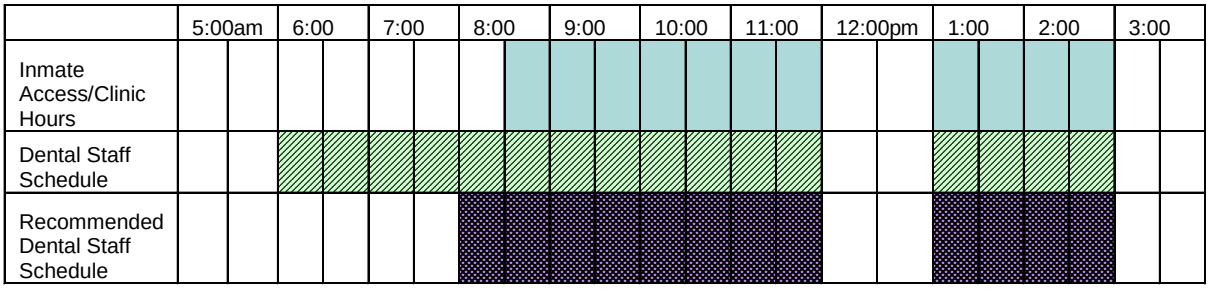
Corrections Health has little control over facility schedules, the inmate population, and housing assignments. Those areas are the responsibility of the Sheriff's Office, and this poses some challenges for Corrections Health operations. Delivery of care is affected by limitations on inmate access and scheduling of inmate transfers. In addition, staff workload is impacted by the size and characteristics of the inmate population. To meet the constantly changing needs, management must be attuned to fluctuations to be able to staff appropriately.

According to literature on correctional health care, staffing decisions require an understanding of the inmate population, facilities, necessary tasks and the level of skills required for those tasks, time estimate of each task, and staff absences. However, Corrections Health did not consistently allocate staff based on these considerations to provide cost-effective health care services. A consultant with a medical background reviewed the system in 1998 and concluded that staff configuration was inefficient. As a result of the consultant's report, some changes were made and alternatives studied. However, the need for improvement still remains.

We found that shift schedules did not always match inmate availability. For example, dental staff shift schedules and dental clinic hours at MCIJ did not match, as shown in Exhibit 9. This inefficient schedule and lack of management oversight resulted in idle time and a three-week backlog of dental services.

Inmate Access and Dental Staff Schedules

Exhibit 9



Dental staff shift schedules can be based on inmate access. Adoption of the recommended shift schedule to five days a week rather than four days a week in Exhibit 9 would reduce the three-week backlog. Further, total weekly staff work hours and costs would not change.

Compared to the Health Department's community clinics, Corrections Health has greater flexibility in scheduling appointments because of immediate access to patients during clinic hours. They can fill more appointments if those scheduled take less time than planned. To avoid loss in productivity, providers should attempt to see other patients when inmates do not show up for appointments. This practice would prevent or reduce backlogs. This is important because delay may necessitate more extensive care, increasing costs. We were told that some providers, whenever possible, saw more patients than were scheduled, while others did not.

We found that nurse staffing was not necessarily based on workload, and tasks were not grouped together efficiently. All nurses have eight-hour shifts, and staffing levels did not necessarily correspond with needs. We observed day shift nurses who perform medication rounds and others who perform physical examinations or medical assesssment on request. Both jails had four nurses for medication rounds. There are two medication rounds during day shifts and one during evening shifts, yet evening shifts had staffing levels similar to day shifts.

We accompanied each nurse and recorded the time taken for each medication round to assess workload. While there is required preparation before and after medication rounds, our purpose was to focus on the time nurses had access to inmates. During the observation, we found that medication rounds took a little over an hour on average, rather than the two hours allotted, ranging from 47 minutes to 1 hour and 13 minutes. The average number of inmate contacts during the round was 33. The average time taken per inmate contact was about 2 minutes.

Anecdotal accounts from staff suggested that female inmate contacts require more time than male, but we were unable to verify this. However, female dorms had more inmates who needed medication. Areas with both males and females, such as infirmaries, may require slightly more time. Approximately 18% of inmates had contact with a nurse on medication rounds at the time of observation in May 2005. Workload may fluctuate daily and our results should be interpreted with this in mind.

Medication rounds include medication preparation beforehand and possibly follow-up afterwards. After finishing medication rounds, nurses at MCDC perform assessments based on Medical Request Forms submitted by inmates. MCIJ nurses have fewer tasks after rounds because there are nurses specifically assigned to perform inmate Medical Request Form assessments. On the day of observation, the MCIJ nurse who processes the majority of inmate Medical Request Forms reported to us that she had 34 medical request forms that day. She also said that it was usually difficult to complete all forms during the shift. The nurse left about four medical request forms for the evening shift. More flexible staff assignments based on workload and increased collaboration among nurses would better allocate staff resources to needs.

We also accompanied accreditation nurses who conducted physical examinations of inmates to meet NCCHC accreditation standards. The standards require a physical examination be performed within 14 days of incarceration. We found that the accreditation nurses could easily complete their tasks within the 2 hour time frame of a round. The average number of contacts per round was 6.5 at MCDC and 13.5 at MCIJ. Even with limited access to inmates, workload data for physical examinations for a five-month period in FY05 suggested that one full-time nurse would be sufficient to cover the workload of both facilities. There is currently one full-time nurse at each facility to perform these duties.

Medication rounds, inmate medical request assessments, and physical examinations have to be completed within a two-hour period twice during the day shift. High and low workload periods should have different staffing levels to balance workload and staff. Currently, all staff schedules are created manually on spreadsheets without any tracking provisions. This practice may make it difficult for Corrections Health to incorporate more creative shift designs.

Corrections Health did not always match nursing skills to tasks for operational efficiency. Corrections Health primarily uses registered nurses, who can independently assess and develop a care plan and are essential during inmate Medical Request Form review. However, medication rounds can be completed by other levels of staff, including paraprofessionals. MCIJ posts with medication round responsibility involve little in-depth assessment. If, through attrition, Corrections Health used paraprofessionals for MCIJ medication round posts, it could potentially save $120,000 on staffing costs.

Other jurisdictions use a mix of nursing professionals. As seen in the Exhibit 10, we found that four of six jurisdictions surveyed used different types of nursing staff to perform nursing tasks. These surveyed jurisdictions were all accredited by NCCHC.

Comparison of Nursing Staff Mix

Exhibit 10

Type of Nursing Staff	Alameda, CA	Clark, NV	King, WA	Multnomah, OR	Salt Lake, UT	Washington, OR
RN	46%	27%	71%	96%	100%	52%
LVN/LPN	46%	59%	29%	4%	0%	48%
Others	8%	15%	0%	0%	0%	0%

(excludes mental health staff)

We did not find evidence that workload data were used to optimize staff resources. Most of the data collected for accreditation purposes did not have sufficient detail to allow workload assessment by post. For example, the number of physical examinations included the number of inmates nurses did not examine because they had already received a physical within a year during a previous incarceration. These numbers are included for accreditation purposes, but have little to do with actual workload. Further, the number of medical request forms could be reported by shift so that workload per shift can be assessed.

Acuity data not available for decision-making

We were given anecdotal information on workload related to acuity, or severity of medical need. We were told that although the average daily population and bookings have been decreasing, the acuity of the inmates there was increasing. Corrections Health did not have data to support the stated increase in acuity. We acknowledge that determining acuity can be very difficult. However, it is critical for this information to be collected, analyzed, and used to determine workload as much as possible.

We identified several factors that could be measures of acuity. When reviewing those factors, we did not find evidence that acuity has increased significantly. As discussed earlier in the mental health section of this report, the milligrams of psychotropic drugs ordered per year have decreased since FY03. The number of psychiatric alerts at booking has decreased 4% since 2000. The number of alcohol withdrawal alerts at booking increased 10% in 2005. However, the number of suicide alerts at booking has decreased 27% since 2000.

The most current data from the National Institute of Justice Arrestee Drug Abuse Monitoring database (2003) indicate that the percent of male and female arrestees in Multnomah County testing positive for any drug has increased slightly since 1997 (+5% males, +8% females). Those testing positive for multiple drugs has decreased since 1997 (-8% males, -13% females).

We also looked at the age of inmates, hypothesizing that older inmates may have the potential for increased health needs. In looking at the average age of inmates from May 2001 through June 2005, we found only a slight increase, going from an average of 33.61 years to 33.68.

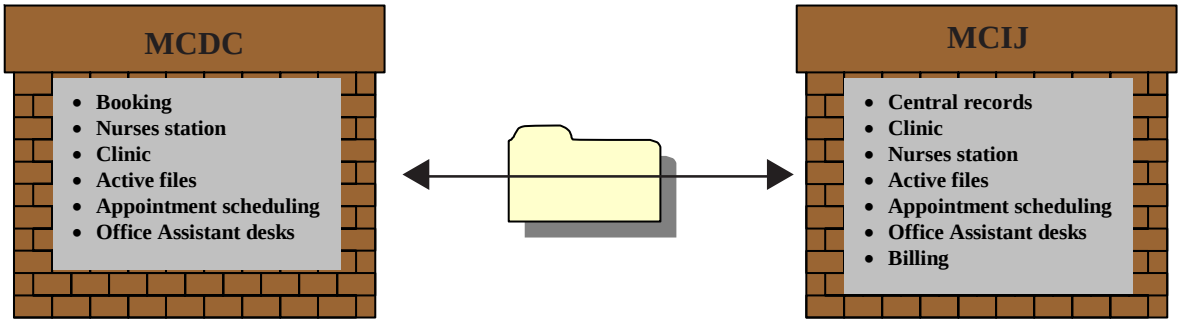
Inmate medical record system inefficient

As each inmate is booked, a medical file is made for that inmate, and it is not unusual to have little information available about a person being booked. Sometimes the inmate will have several aliases. All inmate charts are paper charts. Inactive charts are housed at MCIJ in the central records unit while all bookings occur at MCDC. Currently, if an inmate being booked has a medical, mental health, or aggressive behavior history, it is unknown to the Corrections Health nurse that assesses the inmate. Due to recidivism, there is a good chance an inmate has been seen before by a Corrections Health staff member.

Once someone is booked, he or she could be housed at several facilities including MCDC, MCIJ, or MCCF. Medical charts must follow the inmate and are routed between facilities three times a day. We were told that it is not unusual for a chart to go to one facility at the same time the inmate is being moved to a different facility. To compound the inefficient movement of medical charts, there are several different areas where the chart might be held within each facility.

Medical Record File Movement at Corrections Health

Exhibit 11



As a result, staff spend valuable time moving and tracking the medical charts. Furthermore, much of the information in the charts is transcribed multiple times from hand written notes. For example, if a doctor prescribes a medication, that hand written order goes to an office clerk who transcribes the information. The chart and transcription then go to a nurse to be checked for accuracy. The prescription then goes to the pharmacist. The same process applies when prescriptions are re-ordered. Each time the handwritten notes in a paper chart are transcribed, there is an increased likelihood of error as well as duplication of work. The inefficiency of the current system was initially identified in a 1998 review of Corrections Health by a Correctional Health Services Management Consultant.

The Multnomah County Health Department is preparing to implement an Electronic Medical Records (EMR) system in FY06. The initial implementation will occur in the primary care clinics, HIV clinics, school-based and specialty clinics, and field nursing services. The purpose of the implementation is to improve the delivery of health care while reducing costs. Because many of these programs share the same clientele, it will also afford them the opportunity to assist clients in a more holistic manner. At a future date, they plan to expand implementation to Corrections Health.

Implementation of the Corrections Health EMR system has been delayed for several years, in part because they share data with the Sheriff's Office and there are concerns regarding security. These concerns may not be resolved in the near future. However, because of the cumbersome paper chart system currently used in the jails, it would increase efficiency if Corrections Health created its own EMR system that has the potential to be merged with the rest of the Health Department at a later date. We understand that this could be an expensive and complex undertaking. However, we would encourage Corrections Health to develop a plan to find funding for this project and move it up in priority. Research suggests that over time, these systems reduce costs.

Recommendations

I. To manage staff resources for efficient and effective care, we recommend that Corrections Health:
   A. Develop a system to control overtime use and expenditures, including these considerations:
      1. monitoring overtime use:
      2. enforcing overtime procedures, including requiring overtime request forms and authorization for overtime payment; and
      3. clarifying appropriate overtime use.
   B. Develop expectations and performance standards for medical staff teams.
   C. Monitor sick leave use.
   D. Consider budgeting regular staff for absences, rather than overtime.
   E. Develop a system to manage the on-call nurse pool.
   F. Improve management accountability and clarify lines of responsibility.

II. To use existing staff resources more efficiently, we recommend that Corrections Health:
   A. Conduct a staffing study in order to:
      1. determine staffing needs based on workload requirements, absences, and inmate access; and
      2. better match nursing skills to tasks.
   B. Consider alternative work shifts.
   C. Develop better workload measures and review workload periodically.
   D. Consider implementing an automated scheduling system.

III. To make the medical charting process and access more efficient, we recommend that Corrections Health:
   A. Develop a plan to implement electronic medical records at Corrections Health.
   B. Consider implementing a separate system if issues surrounding an integrated system make it difficult to realize the plan.

Responses to the Audit

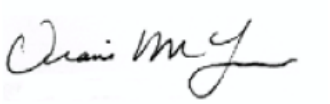
Diane M. Linn, Multnomah County Chair

501 SE Hawthorne Blvd., Suite 600
Portland, Oregon 97214
Phone: (503) 988-3308
Email: mult.chair@co.multnomah.or.us

M E M O R A N D U M

TO : Suzanne Flynn
Multnomah County Auditor

FROM: Diane Linn
Multnomah County Chair



DATE : September 1, 2005

RE : Response to Corrections Health Audit

Thank you for conducting an audit of the County's Correction Health Programs.

I have reviewed your recommendations and suggestions for improvement with our Health Department Director, Lillian Shirley. We are both looking forward to working with you to continue to improve these programs.

A number of suggestions contained in the audit are actually practices that we once did, but have had to abandon due to diminished resources. We not only agree with the auditors suggestions, we very much wish we still had the resources and staffing to do our work in the manner. For example, budgeting extra personnel to cover unexpected absences was abandoned in 2003. Another example is changes in the measure of medications. Due to fiscal constraints, the formulary used to prescribe drugs in the jail has been significantly limited in the last few years. With the exception of medications that are life supporting and those the inmate arrives with, Corrections Health does not start new medications until after a health assessment has been completed. That assessment has recently been moved from three to seven days after the inmate arrives due to lack of staffing. This decision was based on the fact that many inmates are released within the first 72 hours.

Also, two of the areas you identified for improvement are already part of a work plan we began in May 2005. Where gaps in performance and accountability are referred to in the management of the Mental Health Team, we have taken steps to identify performance expectations and outcome measures. This has resulted in personnel and staffing changes in that area.

Our commitment over these last years to preserve front line staff and eliminate support and management positions has contributed to some of the lapses in documentation and oversight of paper work. Management oversight for Corrections Health has been reduced 44% between 2001 and 2005. We will actively seek better ways of monitoring compliance within the existing resources.

The findings related to nursing skills to staff and use of licensed personnel can best be understood in the context of workforce composition. In the metro region, the number and availability of Licensed Practical or Vocational Nurses has decreased enormously in the last 10 years. In addition, the scope of practice in the jails is dictated by a number of regulatory agencies we must comply with. This includes the Board of Pharmacy, the Board of Nursing and credentialing bodies in the area of jail health.

As I'm sure you know, research indicates that in order to save money and ensure efficiencies, initial investments often must be made. The Health Department very much understands this and finding the investment dollars for Electronic Medical Record is a task we have been engaged in throughout the Health Department for the last two years. We appreciate your support of this initiative in the Health Department's five year strategic plan.

Again, thank you for your detailed review and recommendations.

Diane M. Linn