DATE: February 1, 2011

TO: Metropolitan King County Councilmembers

FROM: Cheryle A. Broom, King County Auditor

SUBJECT: Follow-up on Implementation of Recommendations from 2007 Performance Audit of Jail Health Services' Pharmacy Operations and Medication Administration

This memorandum provides the results of our follow-up review of our 2007 Jail Health Services' Pharmacy Operations and Medication Administration performance audit. Our follow-up review found that eight of the 15 recommendations have been implemented. Jail Health Services (JHS) has improved its management controls and quality assurance activities, and has implemented significant process improvements. Three of the report’s recommendations have led to an estimated cost savings of $205,000 and a reduction of four FTEs.

Of the seven recommendations that are partially implemented, JHS has activities planned and in process to implement them. Some of these activities are pending the completion of countywide and agency-specific technology projects. We will conduct additional follow-up in 2011 and thereafter, to assess the implementation status of the remaining recommendations.

Background

In 2007, the auditor’s office completed a performance audit of Jail Health Services' Pharmacy Operations and Medication Administration. JHS provides health services at the King County Correctional Facility (KCCF) in Seattle and the Norm Maleng Regional Justice Center (MRJC) in Kent. Inmate custody is provided by the Department of Adult and Juvenile Detention (DAJD). The objective of the audit was to evaluate Jail Health Services' controls over medications (including narcotics and other controlled substances), assess the effectiveness of the quality assurance activities, and review staffing and scopes of practices within the context of medication administration and pharmacy operations. We retained a consultant, Westcoast Consulting Group, LLC, who provided technical and healthcare expertise in the evaluation of JHS' controls over medications.

The general audit conclusion was that Jail Health Services' (JHS) patients are at no greater risk due to medication errors than patients in other healthcare settings. However, opportunities for JHS to increase accountability in its medication processes were identified. Our audit recommendations were separated into three categories:

- Management Controls and Process Improvement,
- Quality Assurance Reporting, and
- Workload and Staff Planning.
Management Controls and Process Improvement

In 2007, our consultant’s assessment of pharmacy operations and medication administration processes identified the need for additional controls over medications. The consultant found that JHS’ operating model provided opportunities for medications to be lost with no controls, or limited controls to detect and monitor such events.

We recommended that JHS implement verification practices and process improvements to reduce risks for diversion of medications and to increase accountability for medications at King County’s jails.

**Recommendation 1:** Jail Health Services should conduct periodic audits and strengthen inventory controls to enhance accountability for medications ordered, dispensed, administered, disposed of, and maintained in stock.

**Recommendation 2:** Jail Health Services should transfer responsibility for filling the carts with inmate medications to pharmacy staff.

**Recommendation 3:** Jail Health Services should expand the pilot process of filling medications on 24-hour cycles rather than 7-day cycles.

**Recommendation 4:** Jail Health Services should reconfigure medication carts to increase accountability.

**Recommendation 5:** Jail Health Services should utilize portable electronic devices, such as laptops or hand-held devices, to improve documentation of the medication administration process.

**Recommendation 6:** Jail Health Services should conduct a feasibility analysis to evaluate centralizing KCCF and MRJC pharmacy operations.

**Recommendation 7:** Jail Health Services should work with DAJD to modify their Memorandum of Understanding to include regular joint reviews of medication administration performance and to identify opportunities for improvement. The joint reviews should incorporate line staff involvement and/or input from both Jail Health Services and DAJD.

**Status:** Implemented (Recommendations 1-4, and 7); Partially Implemented (Recommendations 5 and 6)

Our follow-up found that five of the above recommendations have been fully implemented. JHS performs medication administration audits at both of its facilities on a periodic basis and reviews findings with appropriate staff and an internal Pharmacy Quality Assurance Committee. In 2009, both facilities were inspected by the Washington State Board of Pharmacy and received perfect scores.

Additionally, in 2010 JHS implemented an automated medication packaging system at KCCF. Planning is underway for the next phase of project implementation, to include delivery of packaged medications from KCCF to MRJC. JHS estimates these improvements will save approximately $205,000 and four FTEs.

Recommendations 5 and 6 were partially implemented. JHS is working with Public Health and DAJD IT staff to test wireless access via a laptop to the electronic health...
records system. Once that technology is in place, it will be piloted by JHS psychiatry providers. JHS will continue to evaluate whether there is value in consolidation of the two pharmacies given the implementation of the automated medication packaging system at KCCF.

**Quality Assurance Reporting**

In 2007, we found that JHS was developing and implementing an array of activities that are consistent with healthcare industry best practices for quality improvement, including establishing a multi-disciplinary Pharmacy Quality Improvement Committee to address medication-related issues. We recommended that JHS continue to review and monitor this performance data and develop appropriate publicly reportable performance measures.

**Recommendation 8:** Jail Health Services should continue to utilize the new method of categorizing medication incidents based on cause and severity, and ensure that reviews of the medication incident data are conducted regularly as planned.

**Recommendation 9:** Jail Health Services should identify key publicly reportable performance measures including outcome-based measures, for medication administration and monitor these through the joint Jail Health Services and DAJD reviews.

**Status:**

- Implemented (Recommendation 8)
- Partially Implemented (Recommendation 9)

Our 2010 follow-up found that JHS has implemented Recommendation 8 by continuing to ensure that medication incident data is compiled, categorized, analyzed, and discussed at quarterly meetings of the JHS Pharmacy Quality Improvement Committee. Data collected is used to support quality improvement in the pharmacy and medication administration programs.

JHS partially implemented Recommendation 9 regarding the public reporting of performance measures, a process which is consistent with existing industry best practices and an emphasis of the Countywide Strategic Plan. JHS developed dashboard measures for internal monitoring of system performance, and external reporting of JHS medication administration efficiency and outputs. We encourage JHS to continue to work toward the implementation of this recommendation, and we will monitor their progress in 2011.

**Workload and Staff Planning**

In 2007, we found that the approach JHS used to measure workload and set staffing levels for its pharmacy and nursing shifts was limited because key productivity, vacancy rate, and employee leave information was not available or used in JHS’ planning tools. We made several recommendations to address these limitations:

**Recommendation 10:** Jail Health Services should continue its update of the pharmacy staffing model to ensure staffing estimates are based on current processes and workload demands.

**Recommendation 11:** Jail Health Services should develop a nurse staffing model that is systematically linked to workload demands and productivity goals. This model should incorporate the development and monitoring of key workload and productivity measures and be used for both staffing and scheduling analyses.
Recommendation 12: Jail Health Services should continue to ensure staff schedules align with staffing plans and workload demands.

Recommendation 13: Jail Health Services should incorporate the need to cover employees on leave into its staffing plans. Jail Health Services should use statistical analyses to assess its current staffing level and to model the most cost-effective mix of full-time staff, overtime, and temporary agency staff.

Recommendation 14: Jail Health Services should develop a method to track all hours of employee work and leave.

Recommendation 15: Jail Health Services should improve management of vacation leave by specifying the maximum number of staff who can take vacation from each shift. Additionally, Jail Health Services should consider improving current leave policies to create an incentive for employees to save their sick leave.

**Status:**

- Implemented (Recommendations 12 and 15)
- Partially Implemented (Recommendations 10, 11, 13, and 14)

Our follow-up found that JHS has implemented Recommendations 12 and 15. JHS management coordinates alignment of staffing patterns with budgeted positions and operational changes. For example, 10- and 12-hour shifts were introduced at the MRJC in 2008, and staffing patterns are being updated pursuant to the implementation of the medication packaging system. Leave guidelines were re-issued to clinical staff in early 2008 and are followed by the JHS scheduler when approving leave requests. Further, a wellness incentive is included in the WSNA contract, and approved leave is posted on a shared drive for access by staff in planning leave requests.

Implementation activities for recommendations 10, 11, 13, and 14 are underway and pending implementation of complex countywide and agency-specific technology projects. The pharmacy staffing model will be updated when the electronic health records and pharmacy information systems interface is complete and implemented, which is planned for 2011. JHS has begun development of workload indicators for the nursing staff for use in the nurse staffing model.

Continued development of the nurse staffing model and updates to the pharmacy staffing model will occur subsequent to installation of the countywide ABT/People-Soft Time and Labor module now scheduled for 2012. The module will provide electronic data regarding employee leaves which will improve JHS ability to analyze and plan for absences. In the meantime, JHS uses data from the electronic health records to track inmates' ability to access care and confirms whether ordered care has been delivered.

We will continue to assess progress in implementing these recommendations in 2011 and thereafter.

In summary, this follow-up found that JHS managers, and pharmacy and nursing staff have implemented a number of process improvement and quality assurance activities to fully or partially address the 2007 audit's 15 recommendations. Seven recommendations are partially implemented and, for the most part, are pending primarily due to the ongoing implementation of technology projects. In addition to our audit follow-up, the U.S. Department of Justice has also been monitoring JHS medication management activities and has concluded that these activities are delivered professionally and consistently with state law and agency policies and procedures.
Valerie Whitener, Senior Principal Management Auditor, conducted this follow-up review. Please contact Valerie at 206-296-0377 or me at 206-296-1655 if you have any questions about the issues discussed in this letter.

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cc: David Fleming, Director and Public Health Officer, Public Health, Seattle & King County (PHSKC)
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